

VII. TABLES

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TABLE 1

Peak Discharges for Non-Detained Alternative

Table 1

YUCCA VALLEY MASTER PLAN OF DRAINAGE
PEAK DISCHARGES FOR NON-DETAINED ALTERNATIVE

U/S Node	D/S Node	Rational Method Peak Runoff (cfs)	Upstream Reach Design Q (cfs)	Runoff Hydrograph Peak Q (cfs)	Additional Subarea Runoff (cfs)	Side Inlet Channel Q (cfs)	Regional Facility Q (cfs)	Comments
YUCCA WASH:								
106 to 112.1	112.1	821					821	From Rational Method calculations, file YV1.DAT
112.1 to 115	115	928					928	From Rational Method calculations, file YV1.DAT
115 to 116	116	1,069					1,069	From Rational Method calculations, file YV1.DAT
116 to 117	117	1,149					1,149	From Rational Method calculations, file YV1.DAT
117 to 127	127	1,327					1,327	From Rational Method calculations, file YV1.DAT
127 to 127.1	127.1			1,660			1,660	Hydrograph peak Q @ Node 127.1
127.1 to 128	128		1,660		37		1,697	Assumed additional subarea runoff is 30% of 121cfs (subarea runoff @ Node 129)
128 to 129	129		6,953	6,830	123		6,953	Hydrograph peak Q @ Node 128 + 100% of total subarea runoff @ Node 129
129 to 130	130		6,953		205		7,158	Additional subarea runoff from RAT calcs., file YV130.DET (100-Year) @ Node 129.1
130 to 131	131			11,643	185		11,828	Additional subarea runoff from RAT calcs., file YV1.DET @ Node 130
131 to 132	132			12,311	122		12,378	Hydrograph peak Q at Node 131 + additional runoff > Hydrograph peak Q at Node 132; used hydrograph peak Q at Node 132 as design Q
132 to 133	133			12,378	251		12,629	Hydrograph peak Q at Node 132 + 65% of 386cfs (total subarea runoff @ Node 134, file YV1.DAT)
133 to 134	134			12,631	386		13,017	Hydrograph peak Q at Node 133 + 100% of total subarea runoff @ Node 134, file YV1.DAT
134 to 135	135			14,633			14,633	Decrease in runoff hydrograph Q at Node 136; used upstream design Q
135 to 136	136		14,633	14,598			14,633	Decrease in runoff hydrograph Q at Node 136; used upstream design Q
136 to 139	139		14,633	14,866			14,866	Hydrograph peak Q at Node 136 + additional subarea runoff > Hydrograph peak Q at Node 139; used hydrograph peak Q at Node 139 as design Q
PINON CREEK:								
256 to 251	251	814					814	From Rational Method calculations, file YV2.DAT
251 to 242	242	1,430					1,430	From Rational Method calculations, file YV2.DAT
242 to 243	243	1,742					1,742	From Rational Method calculations, file YV2.DAT
243 to 244	244	1,742					1,742	From Rational Method calculations, file YV2.DAT
244 to 237	237	1,742					1,742	From Rational Method calculations, file YV2.DAT
237 to Inlet	Inlet			2,168			2,168	Hydrograph peak Q at Node 237
WATER CANYON:								
318 to 319	319			6,398			6,398	Peak Q at Node 325 (6,292cfs) < Peak Q at Node 318 (6,398cfs); Used peak Q at Node 325 as design Q for entire reach from Node 318 to Node 130
319 to 325	325		6,398				6,398	
325 to 128	128		6,398				6,398	
KICKAPOO DRAIN:								
206 to 207	207	627					627	From Rational Method calculations, file YV2-25.DAT
207 to 208	208	1,220		1,110			1,110	Hydrograph peak Q at Node 208 < RAT peak Q; used hydrograph Q for design Q
208 to 209	209		1,110		23		1,133	Additional subarea runoff from RAT calcs., file YV2.DAT
209 to 210	210		1,133		35		1,168	Additional subarea runoff from RAT calcs., file YV2.DAT
210 to 210.1	210.1		1,168			402	1,570	Side inlet Q100 from file YV2.DAT

U/S Node	D/S Node	Rational Method Peak Runoff (cfs)	Upstream Reach Design Q (cfs)	Runoff Hydrograph Peak Q (cfs)	Additional Subarea Runoff (cfs)	Side Inlet Channel Q (cfs)	Regional Facility Q (cfs)	Comments
CAMINO DEL CIELO:								
236 to 237		526					526	From Rational Method calculations, file YV2-25.DAT
DEER TRAIL CHANNEL:								
508 to 509		935					935	From Rational Method calculations, file YV5.DAT
509 to 510		1,178					1,178	From Rational Method calculations, file YV5.DAT
510 to 511		1,211					1,211	From Rational Method calculations, file YV5.DAT
511 to 522.1		1,344					1,344	From Rational Method calculations, file YV5.DAT
ACOMA CHANNEL:								
516 to 517		930					930	From Rational Method calculations, file YV5.DAT
517 to 518		1,148					1,148	From Rational Method calculations, file YV5.DAT
518 to 519		1,252					1,252	From Rational Method calculations, file YV5.DAT
519 to 520		1,347					1,347	From Rational Method calculations, file YV5.DAT
520 to 521		1,430					1,430	From Rational Method calculations, file YV5.DAT
521 to 522		1,470					1,470	From Rational Method calculations, file YV5.DAT
522 to 522.1			1,470				1,470	No additional subarea added; kept upstream design Q
522.1 to 523				2,513			2,513	Hydrograph peak Q at Node 523
523 to 611				2,513	53		2,566	Hydrograph peak Q at Node 523 + additional subarea runoff from RAT calcs., file YV5.DAT
HOSPITAL CHANNEL:								
608 to 609		773				413	1,186	Q100 at Node 609 + Q100 at Node 633 + 10% of additional subarea runoff at Node 634
609 to 610		859				413	1,272	Q100 at Node 610 + Q100 at Node 633 + 10% of additional subarea runoff at Node 634
610 to 611			1,272		629		1,901	Additional subarea runoff is subarea runoff at Node 611 + 90% of subarea runoff at Node 634 + 90% of subarea runoff at Node 635
611 to 612				3,619	79		3,698	Hydrograph peak Q at Node 611 + additional subarea runoff at Node 612, file YV5.DAT
612 to 708			3,698		99		3,797	Additional subarea runoff at Node 708, file YV3D.DAT
708 to 823				3,941	41		3,982	Hydrograph peak Q at Node 708 + additional subarea runoff at Node 823, file YV823.DAT (2.5-Year)
CHOLLA AVE DRAIN:								
633 to 635	D/S 608	393			20		413	Q100 at Node 633 + 10% of additional subarea runoff at Node 634
634 to 635		179			22		201	90% of additional subarea runoff at Node 634 + 10% of additional subarea runoff at Node 635
635 to 610			201				201	No additional subarea added, used upstream Q as design Q
LONG CYN. CHANNEL:								
829 to 830		1,288					1,288	From Rational Method calculations, file YV5.DAT
830 to 813		1,443					1,443	From Rational Method calculations, file YV5.DAT
812 to 813		2,379					2,379	From Rational Method calculations, file YV5.DAT
813 to 816				3,643			3,643	Runoff hydrograph Q at Node 816 < RAT peak Q at Node 813; used hydrograph Q as design Q for channel reach from Node 813-Node 816
816 to 817			3,643		249		3,892	Additional subarea runoff from RAT calcs, file YV5.DAT
817 to 818			3,892		169		4,061	Additional subarea runoff from RAT calcs, file YV5.DAT
818 to 819			4,061		187		4,248	Additional subarea runoff from RAT calcs, file YV5.DAT
819 to 820				4,425			4,425	Runoff hydrograph peak Q at Node 820
820 to 821				4,425	46		4,471	Additional subarea runoff from RAT calcs, file YV5.DAT
821 to 823				4,471	33		4,504	Additional subarea runoff from RAT calcs, file YV5.DAT
823 to 824				7,195	8		7,203	Hydrograph peak Q at Node 823 + additional subarea runoff from RAT calcs, file YV5.DAT
824 to 130			7,203		21		7,224	Additional subarea runoff is 10% of total subarea runoff at Node 130 (205cfs), file YV130.DAT (100-Year)

U/S Node to Node	D/S Node	Rational Method Peak Runoff (cfs)	Upstream Reach Design Q (cfs)	Runoff Hydrograph Peak Q (cfs)	Additional Subarea Runoff (cfs)	Side Inlet Channel Q (cfs)	Regional Facility Q (cfs)	Comments
E. BURNT MTN. WASH:								
1008 to 1009	1009	1,009					1,009	From Rational Method calculations, file YV9.DAT
1009 to 1010	1,039						1,039	From Rational Method calculations, file YV9.DAT
1010 to 1011	1,039						1,039	From Rational Method calculations, file YV9.DAT
1011 to 1012	1,148						1,148	From Rational Method calculations, file YV9.DAT
1012 to 1013	1,187						1,187	From Rational Method calculations, file YV9.DAT
1013 to 1014	1,681						1,681	From Rational Method calculations, file YV9.DAT
1014 to 1015	1,735						1,735	From Rational Method calculations, file YV9.DAT
1015 to 1016	1,735		1,735	1,735			1,735	Runoff hydrograph peak Q at Node 1016
1016 to 1018			1,735	1,548			1,735	Runoff hydrograph peak Q at Node 1018; kept upstream Q as design Q
1018 to 1019			1,735		288		2,023	Assumed additional subarea runoff is 80% of 359 cfs (total subarea runoff at Node 1019)
W. BURNT MTN. WASH								
906 to D/S 930	774					172	946	RAT Q and side inlet Q from file YV9.DAT
D/S 930 to D/S 933	1,108						1,108	Used Q100 at Node 907, file YV9.DAT as design Q
D/S 933 to 907	1,108						1,108	From Rational Method calculations, file YV9.DAT
907 to 908	1,108						1,108	From Rational Method calculations, file YV9.DAT
908 to 909	1,644						1,644	From Rational Method calculations, file YV9.DAT
909 to 910	1,644						1,644	From Rational Method calculations, file YV9.DAT
910 to 911	2,028						2,028	From Rational Method calculations, file YV9.DAT
911 to 912				2,097			2,145	Hydrograph peak Q at Node 912; additional subarea runoff from RAT cases, file YV9.DAT
912 to 913							2,197	Additional subarea runoff from RAT cases, file YV9.DAT
913 to 915			2,145		52		2,273	Additional subarea runoff from RAT cases, file YV9.DAT
915 to 916			2,197		76		2,342	Additional subarea runoff from RAT cases, file YV9.DAT
916 to 918			2,273		69		2,414	Additional subarea runoff from RAT cases, file YV9.DAT
918 to 1019			2,342		72		3,463	Assumed additional subarea runoff is 20% of 359 cfs (total subarea runoff)
1019 to 1020				3,388			3,560	Interpolated design Q based on additional area added; adding additional subarea runoff would result in higher discharge at downstream than the hydrograph peak Q at Node 1023
1020 to 1021			3,463		97		3,628	Hydrograph peak Q at Node 1023
1021 to 1022			3,560		68		3,709	Assumed no additional flow added; used upstream design Q
1022 to 1023			3,709				3,709	
1023 to 134			3,709				3,709	
BUENA VISTA WASH:								
1108 to 1109	959						959	From Rational Method calculations, file YV11.DAT
1109 to 1110	1,022						1,022	From Rational Method calculations, file YV11.DAT
1110 to 131				2,053			2,109	Hydrograph peak Q at Node 1110 + additional subarea runoff from file YV9.DAT
SAGE CHANNEL:								
1212 to 1213	979						979	From Rational Method calculations, file YV11.DAT
1213 to 1110	979						979	From Rational Method calculations, file YV11.DAT
OWS CHANNEL:								
1310 to 1311	892						892	From Rational Method calculations, file YV13.DAT
1311 to 1312	892						892	From Rational Method calculations, file YV13.DAT
1312 to 1313				1,303			1,303	Hydrograph peak Q (AMC II) at Node 1313
1313 to 133			1,303				1,303	No additional flow considered; used upstream Q as design Q
1305 to 1306	267						267	From Rational Method calculations, file YV13-25.DAT
1306 to 1307	285						285	From Rational Method calculations, file YV13-25.DAT

U/S Node	D/S Node	Rational Method Peak Runoff (cfs)	Upstream Reach Design Q (cfs)	Runoff Hydrograph Peak Q (cfs)	Additional Subarea Runoff (cfs)	Side Inlet Channel Q (cfs)	Regional Facility Q (cfs)	Comments
BLACK ROCK WASH:								
1555 to 1556			5,132	5,132	+		5,132	Runoff hydrograph peak Q at Node 1556
1556 to 1557			5,132		73		5,205	Additional subarea runoff from file YV15.DAT
1557 to 1558			5,205		162		5,367	Additional subarea runoff from file YV15.DAT
1558 to 1523				5,544	+	39	5,583	Hydrograph peak Q at Node 1558 + additional subarea runoff at Node 1523, file YV15.DAT
CARMELITA WASH								
EAST FORK:								
1520 to 1522		5,027		4,799	+	39	4,799	Runoff hydrograph Q at Node 1522-RAT peak Q; used hydrograph peak Q as design Q
1522 to 1523			4,799				4,838	Additional subarea runoff from Node 1523-Node 1558
1523 to 1523.01				9,341	+	85	9,426	Hydrograph peak Q at Node 1523 + additional subarea runoff from file YV15.DAT
1523.01 to 2519			9,426		+	54	9,480	Assumed additional runoff is 20% of 272cfs (total subarea runoff at Node 2519, file YV15.DAT)
COVINGTON WASH:								
2518 to 2519			3,977		+	218	4,195	Assumed additional runoff is 80% of 272cfs (total subarea runoff at Node 2519, file YV15.DAT)
2519 to 2522			11,820				11,820	Hydrograph peak Q at Node 2521 (11,517cfs) & Node 2522 (10,980cfs) < Peak Q at Node 2519, used peak Q at Node 2519 as design Q
SIERRA VISTA WASH:								
1710 to 1718		1,121		2,158			1,121	From Rational Method calculations, file YV17.DAT
1718 to 1725							2,158	Hydrograph peak Q at Node 1721 (2,102cfs) & Node 1725 (1,938cfs) < Peak Q at Node 1718 (2,156cfs); used peak Q at Node 1718 as design Q
SOUTH SKYLINE RANCH WASH:								
1639 to 1640		862					862	From Rational Method calculations, file YV16.DAT
1640 to 1641		863					863	From Rational Method calculations, file YV16.DAT
1641 to 1612				1,349	+	27	1,376	Hydrograph peak Q at Node 1641 + additional subarea runoff from file YV16.DAT
1612 to 1612.2			3,523				3,523	Hydrograph peak Q at Node 1612 (3,523cfs) > Hydrograph peak Q at Node 1612.2 (3,405cfs); used hydrograph Q at Node 1612 as design Q
SKYLINE RANCH WASH:								
1610 to 1611		1,987					1,987	From Rational Method calculations, file YV16.DAT
1611 to 1612				2,516	+	55	2,571	Hydrograph peak Q at Node 1611 + additional subarea runoff from file YV16.DAT
GRAND AVE DRAIN								
129.05 to 129.1		150					150	From Rational Method calculations, file YV130.DAT (25-Year)

TABLE 2

Peak Discharges for Detained Alternative

Table 2

**YUCCA VALLEY MASTER PLAN OF DRAINAGE
PEAK DISCHARGES FOR DETAINED ALTERNATIVE**

U/S Node	D/S Node	Rational Method Peak Runoff (cfs)	Upstream Reach Design Q (cfs)	Runoff Hydrograph Peak Q (cfs)	Additional Subarea Runoff (cfs)	Side Inlet Channel Q (cfs)	Regional Facility Q (cfs)	Comments
YUCCA WASH:								
106 to 112.1	112.1	821					821	From Rational Method calculations, file YV1.DAT
112.1 to 115	115	928					928	From Rational Method calculations, file YV1.DAT
115 to 116	116	1,069					1,069	From Rational Method calculations, file YV1.DAT
116 to 117	117	1,149					1,149	From Rational Method calculations, file YV1.DAT
117 to 127	127	1,327					1,327	From Rational Method calculations, file YV1.DAT
127 to 127.1	127.1		1,660	1,660			1,660	Runoff Hydrograph at Node 127.1
127.1 to 128	128		1,660	1,660	46		1,706	Assumed additional subarea runoff is 30% of 154cfs (subarea runoff @ Node 129)
128 to 129	129			3,087	154		3,241	Hydrograph peak Q @ Node 128 + 100% of total subarea runoff @ Node 129
129 to 130	130		3,241		205		3,446	Additional subarea runoff from RAT calc., file YV130.DAT (100+Year)
130 to 131	131			6,058	183		6,241	Additional subarea runoff from RAT calc., file YV1.DAT
131 to 132	132			7,353	119		7,472	Additional subarea runoff from RAT calc., file YV1.DAT
132 to 133	133			7,608	280		7,888	Assumed additional subarea runoff is 65% of total subarea runoff
133 to 134	134			8,102	431		8,533	Assumed additional subarea runoff is 35% of total subarea runoff
134 to 135	135			9,446	74		9,520	Interpolated design Q based on additional area added; adding additional subarea runoff would result in higher discharge at downstream than the runoff hydrograph Q at Node 136
135 to 135.1	135.1		9,520		42		9,562	Hydrograph peak Q at Node 136
135.1 to 136	136		9,562		103		9,665	Interpolated design Q based on additional area added; adding additional subarea runoff would result in higher discharge at downstream than the runoff hydrograph Q at Node 139
136 to 137	137			9,665	178		9,843	Interpolated design Q at Node 139
137 to 138	138		9,843		122		9,965	Hydrograph peak Q at Node 139
138 to 139	139		10,097	10,097			10,097	
PINON CREEK:								
256 to 251	251	814					814	From Rational Method calculations, file YV2.DAT
251 to 242	242	1,430					1,430	From Rational Method calculations, file YV2.DAT
242 to 243	243	1,742					1,742	From Rational Method calculations, file YV2.DAT
243 to 244	244	1,742					1,742	From Rational Method calculations, file YV2.DAT
244 to 237	237	1,742					1,742	From Rational Method calculations, file YV2.DAT
237 to Inake	Inake			2,168			2,168	Hydrograph peak Q at Node 237
WATER CANYON:								
318 to 319	319			1,491	65		1,556	Interpolated design Q based on additional area added; adding additional subarea runoff would result in higher discharge at downstream than the hydrograph peak Q at Node 325
319 to 320	320		1,556		129		1,685	**The interpolated additional subarea runoff represents new interpolation values based on hydrograph peak Q obtained from 96 AERS software
320 to 321	321		1,685		21		1,706	Hydrograph peak Q at Node 325; assumed no additional runoff added between Node 324 to Node 325
321 to 323	323		1,706		168		1,874	
323 to 324	324		1,874		47		1,921	
324 to 128	128			1,957			1,957	
KICKAPOO DRAIN:								
207 to 208	208			1,178			1,178	Hydrograph peak peak inflow into Kickapoo Basin
208 to 209	209			290	23		313	Hydrograph peak outflow from Kickapoo Basin + additional subarea runoff at Node 209, file YV2.DAT
209 to 210	210		313		35		348	Additional subarea runoff from RAT/calc., file YV2.DAT
210 to 210.1	210.1		348			402	750	Side inlet Q100 from file YV2.DAT

U/S Node	D/S to Node	Rational Method Peak Runoff (cfs)	Upstream Reach Design Q (cfs)	Runoff Hydrograph Peak Q (cfs)	Additional Subarea Runoff (cfs)	Side Inlet Channel Q (cfs)	Regional Facility Q (cfs)	Comments
DEER TRAIL CHANNEL:								
508	to 509	935					935	From Rational Method calculations, file YV5.DAT
509	to 510	1,178					1,178	From Rational Method calculations, file YV5.DAT
510	to 511	1,211					1,211	From Rational Method calculations, file YV5.DAT
511	to 522.1	1,344					1,344	From Rational Method calculations, file YV5.DAT
DEER TRAIL CHANNEL TRIBUTARY:								
531	to 511	132					132	From Rational Method calculations, file YV5-25.DAT
ACOMA CHANNEL:								
516	to 517	930					930	From Rational Method calculations, file YV5.DAT
517	to 518	1,148					1,148	From Rational Method calculations, file YV5.DAT
518	to 519	1,252					1,252	From Rational Method calculations, file YV5.DAT
519	to 520	1,347					1,347	From Rational Method calculations, file YV5.DAT
520	to 521	1,430					1,430	From Rational Method calculations, file YV5.DAT
521	to 522	1,470					1,470	From Rational Method calculations, file YV5.DAT
522	to 522.1		1,470				1,470	No additional subarea added; kept upstream design Q
522.1	to 523		2,744				2,744	Hydrograph peak inflow into Acoma Basin
523	to 611		596	+	52		648	Peak outflow from Acoma Basin + additional subarea runoff at Node 611, file YV5D.DAT
HOSPITAL CHANNEL:								
608	to 609	773		+		413	1,186	Q100 at Node 609 + Q100 at Node 633 + 10% of additional subarea runoff at Node 634
609	to 610	859		+		413	1,272	Q100 at Node 610 + Q100 at Node 633 + 10% of additional subarea runoff at Node 634
610	to 611		1,272	+	651		1,923	Additional subarea runoff is subarea runoff at Node 611 + 90% of subarea runoff at Node 634 + 90% of subarea runoff at Node 635
611	to 612			+	96		2,226	Hydrograph peak Q at Node 611 + additional subarea runoff from file YV5.DAT
612	to 708		2,226	+	119		2,345	Additional subarea runoff from RAT cases, file YV5D.DAT
708	to 823		2,397	+	41		2,438	Hydrograph peak Q at Node 708 + additional subarea runoff at Node 823, file YV823.DAT (25 - Year)
CHOLLA AVE DRAIN:								
633	to 634	393		+	20		413	Q100 at Node 633 + 10% of additional subarea runoff at Node 634 + 10% of additional subarea runoff at Node 635
634	to 635	179		+	22		201	90% of additional subarea runoff at Node 634 + 10% of additional subarea runoff at Node 635
635	to 610		201				201	No additional subarea added, used upstream Q as design Q
LONG CYN. CHANNEL:								
829	to 830	1,288					1,288	From Rational Method calculations, file YV5.DAT
830	to 813	1,443					1,443	From Rational Method calculations, file YV5.DAT
812	to 813	2,379					2,379	From Rational Method calculations, file YV5.DAT
813	to 816						3,643	Hydrograph peak Q at Node 816
816	to 817		3,643	+	249		3,892	Additional subarea runoff from RAT cases, file YV5.DAT
817	to 818		3,892	+	169		4,061	Additional subarea runoff from RAT cases, file YV5.DAT
818	to 819		4,061	+	187		4,248	Additional subarea runoff from RAT cases, file YV5.DAT
819	to 820		4,846				4,846	Hydrograph peak inflow into Long Canyon Basin
820	to 821		1,462	+	45		1,507	Hydrograph peak outflow from Long Canyon Basin + additional subarea runoff from file YV5D.DAT
821	to 823		1,507	+	32		1,539	Additional subarea runoff from RAT cases, file YV5D.DAT
823	to 824		3,424	+	8		3,432	Hydrograph peak Q at Node 823 + additional subarea runoff from RAT cases, file YV5D.DAT
824	to 130		3,432	+	21		3,453	Additional subarea runoff is 10% of total subarea runoff at Node 130 (205cfs), file YV130.DAT (100-Year)

U/S Node	D/S Node	Rational Method Peak Runoff (cfs)	Upstream Reach Design Q (cfs)	Runoff Hydrograph Peak Q (cfs)	Additional Subarea Runoff (cfs)	Side Inlet Channel Q (cfs)	Regional Facility Q (cfs)	Comments
E. BURNT MTN. WASH:								
1008 to 1009		1,009					1,009	From Rational Method calculations, file YV9.DAT
1009 to 1010		1,039					1,039	From Rational Method calculations, file YV9.DAT
1010 to 1011		1,039					1,039	From Rational Method calculations, file YV9.DAT
1011 to 1012		1,148					1,148	From Rational Method calculations, file YV9.DAT
1012 to 1013		1,187					1,187	From Rational Method calculations, file YV9.DAT
1013 to 1014		1,681					1,681	From Rational Method calculations, file YV9.DAT
1014 to 1015		1,735					1,735	From Rational Method calculations, file YV9.DAT
1015 to 1016				1,919			1,919	Hydrograph peak inflow into East Burnt Mtn. Basin
1016 to 1017				238	150		388	Hydrograph peak outflow from East Burnt Mtn. Basin + additional subarea runoff from file YV9D.DAT
1017 to 1018			746				746	Hydrograph peak Q at Node 1018
1018 to 1019			746				746	Underground box conduit; no additional runoff considered
W. BURNT MTN. WASH:								
906 to 907		774				172	946	From Rational Method calculations, file YV9.DAT
D/S 930 to D/S 933		1,108					1,108	Used Q100 at Node 907, file YV9.DAT as design Q
D/S 933 to 907		1,108					1,108	Used Q100 at Node 907, file YV9.DAT as design Q
907 to 908		1,108					1,108	From Rational Method calculations, file YV9.DAT (No change in peak Q)
908 to 909		1,108					1,108	From Rational Method calculations, file YV9.DAT
909 to 910		1,644					1,644	From Rational Method calculations, file YV9.DAT
910 to 911		1,644					1,644	From Rational Method calculations, file YV9.DAT
911 to 912				2,309			2,309	Hydrograph peak inflow into West Burnt Mtn. Basin
912 to 913				284	47		331	Hydrograph peak outflow from West Burnt Mtn. Basin + additional subarea runoff from file YV9D.DAT
913 to 915								Additional subarea runoff from RAT calcs, file YV9.DAT
915 to 916								Additional subarea runoff from RAT calcs, file YV9.DAT
916 to 918								Additional subarea runoff from RAT calcs, file YV9.DAT
918 to 1019								Assumed additional subarea runoff is 20% of 541 cfs (total subarea runoff)
1019 to 1020				1,435	180		1,615	Interpolated design Q based on additional area added; adding additional subarea runoff would result in higher discharge at downstream than file Hydrograph peak Q at Node 1023
1020 to 1021								**The interpolated additional subarea runoff represents new interpolation values based on hydrograph peak Q obtained from '96 AES software
1021 to 1022								Hydrograph peak Q at Node 1023
1022 to 1023								Assumed no additional flow added; used upstream design Q
1023 to 134								
BUENA VISTA WASH:								
1108 to 1109		959					959	From Rational Method calculations, file YV11.DAT
1109 to 1110		1,022					1,022	From Rational Method calculations, file YV11.DAT
1110 to 131				2,053	56		2,109	Hydrograph peak Q at Node 1110 + additional subarea runoff from file YV9.DAT
SAGE CHANNEL:								
1212 to 1213		979					979	From Rational Method calculations, file YV11.DAT
1213 to 1110		979					979	From Rational Method calculations, file YV11.DAT
OWS CHANNEL:								
1310 to 1311		892					892	From Rational Method calculations, file YV13.DAT
1311 to 1312		892					892	From Rational Method calculations, file YV13.DAT
1312 to 1313				1,418			1,418	Hydrograph peak inflow (AMC III) into OWS Basin
1313 to 133				1,337			1,337	Hydrograph peak outflow from OWS Basin; assume no additional runoff added
1305 to 1306		267					267	From Rational Method calculations, file YV13-25.DAT
1306 to 1307		285					285	From Rational Method calculations, file YV13-25.DAT

US Node	D/S Node	Rational Method Peak Runoff (cfs)	Upstream Reach Design Q (cfs)	Runoff Hydrograph Peak Q (cfs)	Additional Subarea Runoff (cfs)	Side Inlet Channel Q (cfs)	Regional Facility Q (cfs)	Comments
BLACK ROCK WASH:								
1555 to 1556			5,132	5,132	+ 73		5,132	Hydrograph peak Q at Node 1556
1556 to 1557			5,132				5,205	Additional subarea runoff from file YV15.DAT
1557 to 1558			5,205		+ 162		5,367	Additional subarea runoff from file YV15.DAT
1558 to 1523				5,544	+ 39		5,583	Hydrograph peak Q at Node 1558 + additional subarea runoff at Node 1523, file YV15.DAT
CARMELITA WASH								
EAST FORK								
1520 to 1522		5,027	4,799	4,799	+ 39		4,799	Hydrograph peak Q at Node 1522 < RAT peak Q at Node 1522; used hydrograph peak Q as design Q
1522 to 1523			4,799				4,838	Additional subarea runoff is from Node 1557 < Node 1558
1523 to 1523.01				9,341	+ 85		9,426	Hydrograph peak Q at Node 1523 + additional subarea runoff from file YV15.DAT
1523.01 to 2519			9,426		+ 54		9,480	Assumed additional runoff is 20% of 272cfs (total subarea runoff at Node 2519, file YV15.DAT)
COVINGTON WASH:								
2518 to 2519			3,977	3,977	+ 218		4,195	Assumed additional runoff is 80% of 272cfs (total subarea runoff at Node 2519, file YV15.DAT)
2519 to 2522			11,820	11,820			11,820	Hydrograph peak Q at Node 2521 (111517cfs) & Node 2522 (10,980cfs) < peak Q at Node 2519; used peak Q at Node 2519 (11,820cfs) as design Q
SIERRA VISTA WASH:								
1710 to 1718		1,121		2,158			1,121	From Rational Method calculations, file YV17.DAT
1718 to 1725							2,158	Hydrograph peak Q at Node 1721 (2,102cfs) & Node 1725 (1,938cfs) < peak Q at Node 1718 (2,158cfs); used peak Q at Node 1718 as design Q
SOUTH SKYLINE RANCH WASH:								
1639 to 1640		862					862	From Rational Method calculations, file YV16.DAT
1640 to 1641		863					863	From Rational Method calculations, file YV16.DAT
1641 to 1612				1,349	+ 27		1,376	Hydrograph peak Q at Node 1641 + additional subarea runoff from file YV16.DAT
1612 to 1612.2				3,523			3,523	Hydrograph peak Q at Node 1612 (3,523cfs) > Hydrograph peak Q at Node 1612.2 (3,405cfs); used hydrograph Q at Node 1612 as design Q
SKYLINE RANCH WASH:								
1610 to 1611		1,987					1,987	From Rational Method calculations, file YV16.DAT
1611 to 1612				2,516	+ 55		2,571	Runoff hydrograph peak Q at Node 1611 + additional subarea runoff from file YV16.DAT
GRAND AVE DRAIN								
129.05 to 129.1		150					150	From Rational Method calculations, file YV130.DAT (25 - Year)
CAMINO DEL CIELO:								
236 to 237		526					526	From Rational Method calculations, file YV2-25.DAT

TABLE 3

Debris Yield Calculations

Table 3

YUCCA VALLEY MASTER PLAN OF DRAINAGE

Debris Yield Calculations

Los Angeles District Method for Prediction of Debris Yield
U. S. Army Corps of Engineers - Los Angeles District

Area Designation	Drainage Area (acres)	Relief Ratio	Peak Flow (cfs)	Unit Peak Flow (cfs/sq mi)	Max. 1-Hr. Precipitation (in x 100)	Fite Factor	Adjustment - Transportation Factor				Eq. No.	Unit Debris Yield (cy/sq mi)		Total Debris Yield (cy)	
							Parent Materials	Soils	Channel Morphology	Hillslope Morphology		Composite	Unadjusted		Adjusted
Water Canyon Basin	4,994	220	6,922*	887	-	3.00	0.10	0.20	0.10	0.05	0.45	2	35,934	16,170	126,178
Pinon Creek	644	625	1,742	1,731	140	3.00	0.10	0.20	0.10	0.05	0.45	2	101,548	45,697	45,982
Skyline Ranch Wash	2,297	244	3,408	950	-	3.00	0.10	0.20	0.10	0.05	0.45	2	38,964	17,534	62,930
Sierra Vista Wash	1,582	208	1,938	784	130	3.00	0.10	0.20	0.10	0.05	0.45	2	29,947	13,476	33,311
Barberry Channel	524	338	979	1,195	130	3.00	0.10	0.20	0.10	0.05	0.45	2	53,049	23,872	19,551
Kickapoo Basin	528	439	1,178*	1,428	140	3.00	0.10	0.20	0.10	0.05	0.45	2	70,904	31,907	26,323
Acoma Basin	1,227	369	2,693*	1,405	142	3.00	0.10	0.20	0.10	0.05	0.45	2	66,007	29,703	56,946
Long Canyon Basin	2,231	405	4,722*	1,355	-	3.00	0.10	0.20	0.10	0.05	0.45	2	68,887	30,999	108,061
E. Burnt Mtn. Basin	1,102	338	1,880*	1,092	140	3.00	0.10	0.20	0.10	0.05	0.45	2	50,631	22,784	39,234
Covington Wash	12,222	245	9,873	517	-	3.00	0.10	0.20	0.10	0.05	0.45	3	23,964	10,784	205,935
W. Burnt Mtn. Basin	1,120	393	2,263*	1,293	-	3.00	0.10	0.20	0.10	0.05	0.45	2	63,372	28,517	49,905
Old Wmn Sprgs Basin	688	363	1,393*	1,295	-	3.00	0.10	0.20	0.10	0.05	0.45	2	59,655	26,845	28,858

* from AMC III

TABLE 4

Summary of Hydraulic Sizing Calculations, Regional, Secondary,
and Local Facilities, Non-Detained Alternative

Table 4

YUCCA VALLEY MASTER PLAN OF DRAINAGE

SUMMARY OF HYDRAULIC SIZING CALCULATIONS

REGIONAL, SECONDARY, AND LOCAL FACILITIES

NON-DETAINED ALTERNATIVE

Facility No.	Facility Name	Node to Node	Location	Station to Station	Type of Facility	Channel Slope	Base Width/ Diameter	Depth (feet) Design (Normal)	Sidewalks	Manning's "n"	Notes	25-Year Flowrate (cfs)	100-Year Flowrate (cfs)	Velocity (fps)	Sheet # Number	
Y01	Yuca Wash	136 to 139	Avalon to Yuca Mesa	1450 to 55+50	RRSS	0.014	120.0	11.2 (5.6)	2:1	0.027	d	-	14,866	19.6	5	
		134 to 136	Burnt Mtn. Wash to Avalon	55+50 to 101+99	RRSS	0.009	120.0	13.3 (6.7)	2:1	0.028	d	d	-	14,633	16.5	5,6
		133 to 134	OWS Channel to Burnt Mtn. Wash	101+99 to 118+37	RRSS	0.006	120.0	13.3 (7.2)	2:1	0.029	d	d	-	13,017	13.6	
		132 to 133	OWS Rd. to OWS Channel	118+37 to 147+22	RRSS	0.007	120.0	12.4 (6.6)	2:1	0.028	d	d	-	12,629	14.4	
		131 to 132	Buena Vista Wash confl. To OWS Rd.	147+22 to 161+70	RRSS	0.007	120.0	12.4 (6.5)	2:1	0.028	d	d	-	12,378	14.3	
		130 to 131	Sage Ave. to Buena Vista Wash	161+70 to 175+41	RRSS	0.007	96.0	13.0 (7.0)	2:1	0.027	d	d	-	11,828	15.3	6
			Long Canyon confl. To Sage Ave.	175+41 to 178+42	CLC	0.009	65.0	11.0 (6.1)	Vert.	0.014	c	c	-	11,828	29.9	
		129 to 130	340' UIS of confluence to Long Cyn.	178+42 to 181+82	CLC	0.009	32.0	11.0 (7.5)	Vert.	0.014	c	c	-	7,158	29.9	
			239' D/S of Grand Ave. to 340' UIS of Long Cyn.	181+82 to 185+17	RLC	0.007	58.0	11.0 (8.2)	1.5:1	0.035	c	c	-	7,158	12.5	
			Palin Ave. to 239' D/S of Grand Ave.	185+17 to 202+35	RRSS	0.009	70.0	11.8 (6.3)	2:1	0.03	d	d	-	7,158	14.1	6,7
		128 to 129	Water Cyn. To Palin Ave.	202+35 to 213+94	RRSS	0.009	70.0	11.8 (6.1)	2:1	0.03	d	d	-	6,933	14.0	
		127.1 to 128	SR 62 to Water Cyn. confl.	213+94 to 220+00	RRSS	0.007	30.0	9.1 (4.4)	2:1	0.029	d	d	-	1,697	9.8	
		127 to 127.1	Acoma Trail to SR 62	220+00 to 223+56	RRSS	0.016	18.0	9.6 (4.5)	2:1	0.03	d	d	-	1,660	13.6	
117 to 127	Deer Trail to Acoma Trail	223+56 to 234+00	RRSS	0.009	18.0	9.6 (4.7)	2:1	0.03	d	d	-	1,327	10.4			
116 to 117		234+00 to 238+33	RRSS	0.012	16.0	8.8 (4.2)	2:1	0.03	a,d	a,d	-	1,149	11.2			
115 to 116		238+33 to 243+93	CLC	0.010	16.0	7.2 (3.1)	1:1	0.014	a,d	a,d	-	1,069	17.8			
112.1 to 115		243+93 to 248+23	CLC	0.009	16.0	7.2 (3.0)	1:1	0.014	a,d	a,d	-	928	16.4			
106 to 112.1		248+23 to 252+44	CLC	0.013	16.0	7.2 (2.5)	1:1	0.014	a,d	a,d	-	821	17.9	7		
Yuca Wash Tributaries:																
LOCAL	Church Channel	123 to 125	Papago Trail to Yuca Wash		SBC	0.033	8.0	4.2 (1.1)	2:1	0.025	a,d	104	-	9.7		
			Pueblo Trail to Papago Trail		SBC	0.033	8.0	4.2 (1.1)	2:1	0.025	a,d	104	-	9.6		
			Onaga Trail to Pueblo Trail		SBC	0.040	8.0	4.0 (1.0)	2:1	0.025	a,d	102	-	10.2		
		105 to 106	Along Deer Trail		STF	0.035	26.0	(0.31)			0.018	e	102	-	8.8	
		420 to 422	Along Elk Trail		STF	0.029	26.0	(0.54)			0.018	e	183	-	10.5	
		419 to 420	Along Fox Trail		STF	0.030	26.0	(0.51)			0.018	e	173	-	9.8	
		413 to 415	Along Fox Trail		STF	0.030	36.0	(0.47)			0.018	e	245	-	10.5	
			Along Fox Trail		STF	0.029	26.0	(0.53)			0.018	e	245	-	10.4	
		126.5 to 127	Twenty-Nine Palms Hwy Drain		STF	0.018	44.0	(0.26)			0.018	a	140	-	6.7	
		857 to 131	Paxon Road Drain		RRSS	0.023	8.0	5.5 (2.0)	2:1	0.029	a,d	231	-	9.5		
	Grand Avenue Drain		RCP	0.018	4.5	(3.3)			0.013		231	-	18.7	6		
	Prentiss Avenue Drain		RCP	0.014	4.0	(3.0)			0.013		152	-	15.3			
			SBC	0.015	8.0	4.9 (1.6)	2:1	0.025	a,d	150	-	8.2				
			SBC	0.031	6.0	5.4 (1.9)	2:1	0.025	d	240	-	12.5		22		

* See Appendix E

Facility No.	Facility Name	Node to Node	Location	Station to Station	Type of Facility	Channel Slope	Base Width/ Diameter	Depth (feet) Design (Normal)	Sidewalk	Manning's "n"	Notes	25-Year Flowrate (cfs)	100-Year Flowrate (cfs)	Velocity (fps)	Sheet Number
Y01-01	Hanford Avenue	1079 to 134	Diamond Dr. to Yucca Wash SR 62 to Diamond Dr.	0+00 to 19+43 19+43 to 24+30 24+30 to 29+55	RRSS RCB RLC	0.019 0.010 0.025	10.0 7.0 10.0	6.7 (2.8) 7.0 (4.2) 7.0 (3.0)	2:1 Vert. 1.5:1	0.029 0.014 0.035	d d d	483 483 483	- - -	11.0 16.4 11.0	
LOCAL	Extension of Y01-01	1086 to 1079	Sunnylope to SR 62 Alta Mesa to Sunnylope Arcadia to Alta Mesa		STF STF RLC	0.034 0.040 0.033	26.0 26.0 26.0	(0.53) (0.50) (0.54)		0.018 0.018 0.018	e e e	195 195 195	- -	11.3 11.9 10.6	22
LOCAL	Y01-01 Tributary	1078 to 1079	Balsa Ave. Drain		STF	0.031	26.0	(0.59)		0.018	e	214	-	11.4	
Y01-02	Crestview Wash	1239 to 132	Crestview Dr. to Yucca Wash	0+00 to 6+05	RLC	0.028	10.0	7.2 (3.1)	1.5:1	0.035	d	535	-	11.8	6
Y01-03	Santa Fe Trail	422 to 106	Elk Trail to Deer Trail	6+05 to 15+98	MFP	0.072	10.0	(2.3)	4:1	0.045		535	-	-	
LOCAL	Extension of Y01-03	415 to 422	Fox Trail to Elk Trail	252+44 to 258+64	STF	0.010	36.0	(1.3)		0.018	e	521	-	10.1	7
Y02	West Burnt Mtn. Wash	408 to 415	Along Santa Fe Trail	258+64 to 263+25	STF	0.030	36.0	(0.24)		0.018	e	118	-	8.9	
LOCAL	Extension of Y02	1022 to 134	Sunnylope Dr. to Yucca Wash	0+00 to 21+71	RRSS	0.018	30.0	10.3 (5.2)	2:1	0.028	d	-	3,709	17.7	
LOCAL	Extension of Y02	1021 to 1022	SR 62 to Sunnylope Dr.	21+71 to 34+33	RLC	0.028	30.0	10.5 (5.3)	1.5:1	0.035	d	-	3,628	18.2	
LOCAL	Extension of Y02	1020 to 1021	Alta to SR 62	34+33 to 40+00	RLC	0.028	30.0	10.5 (5.2)	1.5:1	0.035	d	-	3,560	18.1	16
LOCAL	Extension of Y02	1019 to 1020	Approx. 600' D/S of Yucca Trail to Alta	40+00 to 50+50	RLC	0.028	30.0	10.5 (5.2)	1.5:1	0.035	d	-	3,463	17.9	
LOCAL	Extension of Y02	918 to 1019	Elita Ave. to approx. 600' D/S of Yucca Trail	50+50 to 58+00	RLC	0.030	24.0	9.4 (4.6)	1.5:1	0.035	n,d	-	2,414	17.0	
LOCAL	Extension of Y02	916 to 918	Omega Trail to Elita Ave.	58+00 to 82+94	RLC	0.030	24.0	9.4 (4.5)	1.5:1	0.035	n,d	-	2,342	16.8	
LOCAL	Extension of Y02	913 to 916	Joshua Ln. to Omega Trail	82+94 to 93+79	RLC	0.030	24.0	9.4 (4.5)	1.5:1	0.035	n,d	-	2,273	16.7	
LOCAL	Extension of Y02	912 to 913	Bonanza Dr. to Joshua Ln.	93+79 to 120+00	RLC	0.030	24.0	9.4 (4.4)	1.5:1	0.035	n,d	-	2,145	16.4	
LOCAL	Extension of Y02	911 to 912	Warren Vista Ave. to Bonanza Dr.	120+00 to 132+25	MFP	0.017	10.0	(6.0)	4:1	0.045	n	-	2,028	-	
LOCAL	Extension of Y02	909 to 911	Juarez Dr. to Warren Vista Ave.	132+25 to 149+00	MFP	0.026	10.0	(5.0)	4:1	0.045	n	-	1,644	-	
LOCAL	Extension of Y02	906 to 909	Catalina to Juarez Dr.	149+00 to 173+39	RRSS	0.028	12.0	8.2 (3.8)	2:1	0.029	n,d	-	1,108	14.9	17
LOCAL	Extension of Y02	1067 to 1023	San Andreas to Catalina	173+39 to 194+00	RRSS	0.028	12.0	8.2 (3.7)	2:1	0.029	n,d	-	1,108	15.7	
LOCAL	Extension of Y02	949 to 912	Hilton Ave. Drain	202+93 to 212+05	RRSS	0.028	12.0	7.6 (3.4)	2:1	0.029	n,d	-	946	15.1	
LOCAL	Extension of Y02	941 to 911	Beginning approx. 3000' US San Andreas Rd.		RLC	0.110	6.0	4.8 (1.5)	1.5:1	0.035	n,d	191	-	15.0	16
LOCAL	Extension of Y02	930 to 907	Beginning at San Andreas Rd.		MFP	0.039	10.0	(1.6)	4:1	0.045		194	-	-	
LOCAL	Extension of Y02	928 to 909	San Andreas to West Burnt Mtn. Wash	0+00 to 50+10	MFP	0.033	20.0	(1.5)	4:1	0.045		294	-	-	
LOCAL	Extension of Y02	936 to 938	San Andreas to West Burnt Mtn. Wash		MFP	0.030	20.0	(1.5)	5:1	0.045		279	-	-	17
LOCAL	Extension of Y02	936 to 937	San Andreas to West Burnt Mtn. Wash		MFP	0.030	20.0	(1.5)	5:1	0.045		252	-	-	
LOCAL	Extension of Y02	905 to 906	San Andreas to West Burnt Mtn. Wash		MFP	0.030	20.0	(1.0)	5:1	0.045		130	-	-	
LOCAL	Extension of Y02	905 to 906	San Andreas to West Burnt Mtn. Wash		MFP	0.067	10.0	(1.2)	4:1	0.045		135	-	-	
LOCAL	Extension of Y02	905 to 906	San Andreas to West Burnt Mtn. Wash		RLC	0.035	6.0	6.7 (2.8)	1.5:1	0.035	n,d	426	-	12.2	18
LOCAL	Extension of Y02	925 to 905	San Andreas to West Burnt Mtn. Wash		MFP	0.051	20.0	(0.87)	4:1	0.045		328	-	-	
LOCAL	Extension of Y02	904 to 905	San Andreas to West Burnt Mtn. Wash		MFP	0.150	20.0	(3.0)	4:1	0.045		214	-	-	
LOCAL	Extension of Y02	904 to 905	San Andreas to West Burnt Mtn. Wash		MFP	0.033	10.0	(3.0)	4:1	0.045		699	-	-	17
LOCAL	Extension of Y02	904 to 905	San Andreas to West Burnt Mtn. Wash		MFP	0.053	20.0	(1.4)	4:1	0.045		296	-	-	
LOCAL	Extension of Y02	904 to 905	San Andreas to West Burnt Mtn. Wash		MFP	0.039	20.0	(1.4)	4:1	0.045		239	-	-	18
LOCAL	Extension of Y02	904 to 905	San Andreas to West Burnt Mtn. Wash		MFP	0.039	20.0	(0.94)	4:1	0.045		126	-	-	

* See Appendix E

Facility No.	Facility Name	Node to Node	Location	Station to Station	Type of Facility	Channel Slope	Base Width/Diameter	Depth (feet) Design (Normal)	Sideline	Manning's "n"	Notes	25-Year Flowrate (cfs)	100-Year Flowrate (cfs)	Velocity (fps)	Sheet Number		
Y03	East Burnt Mtn. Wash	1018 to 1019	Pueblo Trail to West Burnt Mtn. Wash	0+00 to 19+55	RCB	0.021	12.0	6.0 (5.5)	Vert.	0.014		-	2,023	31.0	19		
		1017 to 1018		19+55 to 33+65	RCB	0.021	12.0	6.0 (4.9)	Vert.	0.014			-	1,735		29.7	
		1014 to 1017		33+65 to 86+59	RLC	0.034	16.0	9.3 (4.5)	1.5:1	0.035	a,d			-		1,725	16.8
		1013 to 1014		86+59 to 95+44	RUSS	0.036	16.0	8.1 (3.7)	2:1	0.028	a,d			-		1,681	19.4
		1012 to 1013		95+44 to 110+00	RUSS	0.034	12.0	7.9 (3.6)	2:1	0.029	a,d			-		1,187	17.2
		1011 to 1012		110+00 to 127+00	RUSS	0.038	12.0	7.6 (3.4)	2:1	0.029	a,d			-		1,148	17.7
		1010 to 1011		127+00 to 143+63	RUSS	0.038	12.0	7.6 (3.3)	2:1	0.029	a,d			-		1,039	17.3
		1009 to 1010		143+63 to 164+00	MFP	0.040	20.0	(2.9)	4:1	0.045				-		1,009	-
		1008 to 1009		164+00 to 179+79	MFP	0.040	20.0	(2.9)	4:1	0.045				787		-	-
		1007 to 1008		179+79 to 202+27	MFP	0.044	20.0	(2.5)	4:1	0.045						-	-
Y04	OVS Channel (Existing)	1018.6 to 1019	Beginning at Pueblo Tr. To Yucca Trail	0+00 to 9+12	SBC	0.029	8.0	5.8 (2.2)	2:1	0.025	a,d	340	-	13.3	19		
		1018.5 to 1018.6		9+12 to 13+94	RLC	0.076	24.0	8.0 (2.5)	1.5:1	0.035			-	1,203		19.1	
		1055 to 1017		13+94 to 31+56	RLC	0.078	12.0	6.7 (2.8)	1.5:1	0.035	d		-	892		19.3	
		1054 to 1055		31+56 to 11+86	SBC	0.083	8.0	4.9 (1.6)	2:1	0.025	d		352	-		19.3	
		1313 to 133		11+86 to 11+86	SBC	0.082	8.0	4.6 (1.4)	2:1	0.025	d		252	-		17.4	
		1312 to 1313		11+86 to 11+86	SBC	0.082	8.0	4.6 (1.4)	2:1	0.025	d		233	-		16.1	
		1310 to 1312		11+86 to 49+12	RLC	0.062	12.0	6.4 (2.6)	1.5:1	0.035	d		669	-		16.3	
		1321 to 1321		49+12 to 60+87	RUSS	0.082	8.0	5.4 (1.9)	2:1	0.028	d		404	-		18.5	
		1319 to 1320		60+87 to 49+12	RUSS	0.070	8.0	5.4 (1.6)	2:1	0.028	d		285	-		13.8	
		1308 to 1310		49+12 to 11+02	MFP	0.072	10.0	(1.8)	4:1	0.045			267	-		-	
Y05	Buena Vista Wash	1110 to 1110	Sage Chant confl. to Yucca Wash	0+00 to 11+02	RUSS	0.008	30.0	10.0 (5.0)	2:1	0.027	a,d	-	2,109	10.5	15		
		1109 to 1110		11+02 to 26+03	SBC	0.010	20.0	7.6 (3.4)	2:1	0.025	a,d		-	1,022		11.2	
		1108 to 1109		26+03 to 40+17	SBC	0.012	20.0	7.6 (3.1)	2:1	0.025	a,d			-		939	11.7
		1107 to 1108		40+17 to 51+61	SBC	0.015	10.0	6.4 (2.6)	2:1	0.025	a,d		438	-		10.9	
		1145 to 1110		51+61 to Palm Ave.	MFP	0.005	10.0	(2.2)	4:1	0.045			127	-		-	
		1126 to 1107		Palm Ave. to Grand Ave.	MFP	0.007	10.0	(3.1)	4:1	0.045			289	-		-	
		1106 to 1107		Grand Ave. to Sage Chant.	STF	0.072	26.0	(0.40)		0.018	c		194	-		14.2	
		1105 to 1106		Sage Chant confl. to Yucca Wash	STF	0.014	36.0	(0.41)		0.018	c		246	-		11.5	
		1212 to 1110		Yucca Wash to Buena Vista	SBC	0.014	10.0	4.6 (1.4)	2:1	0.025	a,d		246	-		13.0	
		824 to 130		Buena Vista Wash Tributaries	MFP	0.098	10.0	(1.3)	4:1	0.045			199	-		-	
Y06	Sage Channel	1105 to 1106	Pet/ Sunnylope Dr. and Buena Vista	0+00 to 4+09	RLC	0.050	30.0	5.7 (2.1)	1.5:1	0.035	a,d	-	979	14.2	8		
		1212 to 1110		4+09 to 7+44	STF	0.050	36.0	(1.1)		0.018	c		-	979		21.1	
		824 to 130		7+44 to 17+25	RLC	0.060	30.0	5.5 (2.0)	1.5:1	0.035	d		-	979		15.1	
Y07	Long Canyon Channel (Existing)	824 to 130	Approx. 450' US of Yucca Wash to YW confl. Culvert at Antelope Tr. to 450' US YW	0+00 to 4+30	2-CLC	0.020	15.5	11.0 (5.9)	Vert.	0.014	b	-	7,224	39.5	8		
		824 to 130		4+30 to 10+00	CLC	0.020	31.0	11.0 (5.9)	Vert.	0.014	b		-	7,224		39.5	
			SR 62 to culvert at Antelope Tr.	10+00 to 16+60	CLC	0.020	28.0	11.0 (6.4)	Vert.	0.014	b	-	7,224	40.3			

* See Appendix E

Facility No.	Facility Name	Node to Node	Location	Station to Station	Type of Facility	Channel Slope	Base Width/ Diameter	Depth (feet) Design (Normal)	Slopes	Meaning's "n"	Notes	25-Year Flowrate (cfs)	100-Year Flowrate (cfs)	Velocity (fps)	Street Number
Y07	Long Canyon Channel	823 to 824	Hospital Chnl confl. to SR 62	16+60 to 13+90	RLC	0.017	60.0	8.7 (6.2)	1.5:1	0.035	b,c	-	7,203	16.7	8
		821 to 823	Navajo Trail to Hospital Chnl confl.	23+90 to 60+00	RLC	0.033	30.0	8.2 (5.7)	1.5:1	0.035	a,b,c	-	4,504	20.5	
		820 to 821	Joshua Dr. to Navajo Trail	60+00 to 79+28	RLC	0.033	30.0	8.2 (5.5)	1.5:1	0.035	a,b,c	-	4,471	21.1	
		819 to 820	Golden Bee Dr. to existing Long Canyon Basin	0+00 to 22+17	RLC	0.036	30.0	10.8 (5.5)	1.5:1	0.035	d	-	4,423	21.0	
		818 to 819	Ivanhoe Dr. to Golden Bee Dr.	22+17 to 30+00	MFP	0.039	20.0	(6.0)	4:1	0.045	-	-	4,248	-	
		817 to 818	Town Limit to Ivanhoe Dr.	30+00 to 42+96	MFP	0.039	20.0	(5.9)	4:1	0.045	-	-	4,061	-	
		816 to 817		42+96 to 54+00	MFP	0.038	20.0	(5.8)	4:1	0.045	-	-	3,892	-	
		813 to 816		54+00 to 88+63	MFP	0.040	20.0	(5.6)	4:1	0.045	-	-	3,643	-	
		812 to 813		88+63 to 107+87	MFP	0.051	20.0	(4.1)	4:1	0.045	-	-	2,379	-	
		884 to 820	Desert Gold to Long Cyn confl.	0+00 to 3+55	SBC	0.023	8.0	5.8 (2.2)	2:1	0.025	d	-	314	-	
883 to 884	Golden Bee to Desert Gold	3+55 to 13+40	STF	0.044	26.0	(0.74)		0.018	c	-	314	-	13.8		
832 to 883	Facility Limit to Golden Bee		STF	0.044	26.0	(0.61)		0.018	c	-	263	-	13.7		
830 to 832			MFP	0.046	25.0	(3.1)	4:1	0.045	-	-	1,443	-	-		
829 to 830			MFP	0.046	25.0	(2.9)	4:1	0.045	-	-	1,218	-	-		
708 to 829			MFP	0.016	30.0	12.3 (6.5)	1.5:1	0.035	d	-	-	3,982	15.4		
612 to 708	H.S. Chnl confl. To Long Cyn.	0+00 to 10+00	RLC	0.016	30.0	12.3 (6.3)	1.5:1	0.035	d	-	-	3,797	15.2		
611 to 612	Omega Trail to Pueblo Trail	22+08 to 36+89	RLC	0.026	30.0	10.8 (5.5)	1.5:1	0.035	d	-	-	3,698	17.8		
610 to 611	Joshua Dr. to Omega Trail	36+89 to 64+55	RLC	0.037	15.0	9.7 (4.8)	1.5:1	0.035	a,d	-	-	1,901	18.0		
609 to 610	El Dorado Dr. to Joshua Dr.	64+55 to 75+00	RLC	0.051	15.0	7.8 (3.5)	1.5:1	0.035	a,d	-	-	1,272	18.0		
608 to 609			RLC	0.051	15.0	7.8 (3.4)	1.5:1	0.035	a,d	-	-	1,186	17.6		
707 to 708	Omega Tr. To Hospital Chnl confl.	0+00 to 17+14	RLC	0.033	12.0	5.7 (2.1)	1.5:1	0.035	a,d	-	-	341	-	10.7	
705 to 707	Mountain View to Omega Trail		SBC	0.033	8.0	5.1 (1.7)	2:1	0.025	a,d	-	-	233	-	12.3	
635 to 610	Grand to Mountain View		SBC	0.033	8.0	4.8 (1.5)	2:1	0.025	a,d	-	-	181	-	11.5	
634 to 635	Along Joshua Dr.		SBC	0.033	8.0	5.4 (1.9)	2:1	0.025	d	-	-	201	-	5.4	
633 to D/S 608	Golden Bee Dr. to Desert Gold		STF	0.059	36.0	(0.29)		0.018	c	-	-	201	-	12.0	
632 to 633	Along El Dorado Dr.		RCB	0.010	6.0	6.0 (4.4)	Vert.	0.014	-	-	-	413	-	15.6	
608 to 609	Along Cholita Ave. to El Dorado Dr.		RLC	0.032	6.0	6.7 (2.8)	1.5:1	0.035	d	-	-	413	-	14.3	
607 to 608			MFP	0.032	10.0	(1.9)	4:1	0.045	-	-	-	298	-	-	
606 to 607			RLC	0.051	15.0	5.7 (2.1)	2:1	0.035	d	-	-	524	-	13.6	
523 to 611	El Dorado Dr. to Golden Bee Dr.		MFP	0.054	10.0	(2.5)	4:1	0.045	-	-	-	524	-	-	
522.1 to 523	Golden Bee Dr. to Carbyle Dr.		MFP	0.039	20.0	(2.4)	4:1	0.045	-	-	-	484	-	-	
521 to 522	Klamet Rd. to Golden Bee Dr.		RLC	0.039	20.0	9.7 (4.8)	1.5:1	0.035	d	-	-	2,566	19.4		
520 to 521	Deer Trail Chnl confl. to Hospital Chnl		RLC	0.039	20.0	9.7 (4.8)	1.5:1	0.035	d	-	-	2,513	19.3		
519 to 520	Deer Trail Chnl confl. to Joshua Dr.		MFP	0.039	10.0	(4.4)	4:1	0.045	-	-	-	1,470	-	-	
518 to 519	Desert Gold to Deer Trail Chnl confl.		RRSS	0.032	20.0	7.2 (3.1)	2:1	0.027	a,d	-	-	1,470	17.8		
517 to 518	Facility Limit to Desert Gold		MFP	0.041	25.0	(3.1)	5:1	0.045	-	-	-	1,450	-	-	
516 to 517			MFP	0.043	25.0	(3.0)	5:1	0.045	-	-	-	1,347	-	-	
515 to 516			MFP	0.055	25.0	(2.8)	5:1	0.045	-	-	-	1,252	-	-	
511 to 522.1	Desert Gold to Acoma Chnl		MFP	0.049	30.0	(2.2)	5:1	0.045	-	-	-	930	-	-	
510 to 511			MFP	0.068	30.0	(1.2)	5:1	0.045	-	-	-	383	-	-	
509 to 510			MFP	0.079	30.0	(0.82)	5:1	0.045	-	-	-	210	-	-	
508 to 509			RRSS	0.040	12.0	8.1 (3.7)	2:1	0.029	a,d	-	-	1,344	18.9	13	

* See Appendix E

Facility No.	Facility Name	Nodes to Node	Location	Station to Station	Type of Facility	Channel Slope	Base Width/ Diameter	Depth (feet) Design (Normal)	Sludgeslope	Manning's "n"	Notes	25-Year Flowrate (cfs)	100-Year Flowrate (cfs)	Velocity (ft/s)	Sheet # Number
Y11	Deer Trail Channel	508 to 511	Town Limit to Desert Gold	3+00 to 15+65 15+65 to 32+48 32+48 to 42+63	RRSS MFP MFP	0.056 0.056 0.067	12.0 20.0 20.0	7.3 (3.2) (2.9) (2.4)	2:1 5:1 5:1	0.029 0.045 0.045	a,d	- - -	1,211 1,178 935	23.0	13
LOCAL Y11-01	Deer Trail Channel Tributary (EXISTING) Extension of Y11	531 to 511 505 to 508		42+63 to 52+80 52+80 to 64+98 64+98 to 75+42 75+42 to 81+37	SBC MFP MFP MFP	0.067 0.049 0.066 0.076	12.0 20.0 20.0 30.0	1.0 (0.80) (2.1) (1.7) (1.6)	2:1 5:1 5:1 5:1	0.025 0.045 0.045 0.045	d	132 610 509 481	- - - -	12.1 -	13 14
LOCAL Y12	Extension of Y11-01 Water Canyon Channel	503 to 505 324 to 128 321 to 324 318 to 321	Apache Ave. to Yucca Wash RL Levee to Apalache Ave. Built to RL Levee	0+00 to 22+37 22+37 to 38+00 38+00 to 82+32 82+32 to 93+90	RLC RLC RRSS MFP	0.075 0.073 0.038 0.031	30.0 54.0 54.0 100.0	(0.87) (5.6) (4.9) 7.0	4:1 1.5:1 1.5:1 2:1	0.045 0.035 0.035 0.026	a,d a,d a,d a,d	204 - - -	- 6,398 6,398 6,398	- 18.2 21.4 20.1	3
Y12-01	Water Canyon Tributary	322.6 to 323	Along Sioux Ave.	0+00 to 8+96 8+96 to 15+73	SIF SIF	0.018 0.018	26.0 26.0	(1.0) (0.97)	- -	0.018 0.018	a c	337 374	- -	11.5 11.3	-
K01	Kickapoo Drain	210 to 210.1 209 to 210 208 to 209 207 to 208 224 to 210 223 to 224	La Honda Drain to Outlet Omaha Trail to La Florida Drain Navajo Trail to Omaha Trail Mountain View to Navajo Trail Chermahuel Way to Kickapoo Drain	0+00 to 6+78 6+78 to 23+00 23+00 to 29+44 29+44 to 36+21 0+00 to 10+23 10+23 to 12+00 12+00 to 13+98	SBC RCB RCB RCB SBC SBC RCP	0.031 0.043 0.043 0.043 0.005 0.030 0.030	20.0 8.0 8.0 8.0 6.0 6.0 4.5	7.3 (3.2) 6.0 (4.1) 6.0 (4.0) 6.0 (4.0) 9.0 (3.5) 5.0 (2.3) (3.4)	2:1 Vert. Vert. Vert. 2:1 2:1 -	0.025 0.014 0.014 0.014 0.025 0.025 0.013	d - b,c b,c b b	- - 314 314 314 314	- 1,570 1,168 1,133 1,110 - -	18.9 35.3 35.1 34.9 6.9 13.3 24.3	4
LOCAL K01-01	Upstream Honda Basin Extension of K01	222 to 223 206 to 207		36+21 to 53+41 0+00 to 13+95	MFP MFP	0.044 0.058	10.0 20.0	(1.4) (2.0)	4:1 4:1	0.045 0.045		166 627	- -	- -	- -
K01-02	Local Trail Wash	218 to 219 215 to 218	Santa Fe Tr. to Blue Stiles Country Club Along Santa Fe Trail	0+00 to 13+95	RCP SIF	0.039 0.042	26.0 36.0	(0.49) (0.28)	- -	0.013 0.018	a c	314 297	- -	26.9 12.3	- -
LOCAL P01	Jemez Trail Wash	215 to 218	Omaha Trail to Santa Fe Trail	0+00 to 13+95	SIF	0.042	36.0	(0.28)	-	0.018	c	164	-	10.0	-
P01	Pilon Creek	237 to Lake 243 to 237 U/S 242 to 243 251 to U/S 242 256 to 251	Bed/Mountain View and Omaha Trail Camino del Cielo to Golf Course Fairway to Camino del Cielo Rockaway to Fairway Facility Limit to Rockaway	44+00 to 50+00 50+00 to 76+45 76+45 to 92+50 92+50 to 100+00 100+00 to 115+54	RRSS RRSS RRSS MFP MFP	0.067 0.068 0.068 0.046 0.048	40.0 30.0 30.0 30.0 25.0	5.7 (2.1) 5.8 (2.2) 5.8 (2.2) 7.8 (2.8) 7.3 (2.3)	2:1 2:1 2:1 4:1 4:1	0.027 0.027 0.027 0.045 0.045	a,d a,d a,d -	123 -	- 2,168 1,742 1,742 1,430	9.8 23.4 23.5 23.5	1
LOCAL P01-01	Pilon Creek Tributary (EXISTING)	241 to 242 236 to 237 235 to 236 234 to 235 250 to 251	Rockaway/Pilon Dr. Int. to Pilon Creek cont. Along Camino del Cielo to Pilon Creek Pilon Dr. to Camino del Cielo Fairway to Pilon Dr.	0+00 to 11+50 11+50 to 25+50 0+00 to 14+38	RLC SIF MFP MFP	0.062 0.014 0.032 0.036	10.0 44.0 10.0 40.0	8.0 (0.93) (2.6) (1.10)	1.5:1 -	0.035 0.018 0.045 0.045	c	152 526 432	- -	10.6 10.4	2
LOCAL P01-02	Extension of P01-01 Pilon Creek Tributary	249 to 250 250 to 252		14+38 to 28+82 6+15 to 22+63	MFP RRSS	0.065 0.077	30.0 80.0	(0.89) (5.2)	4:1 2:1	0.045 0.027		500 356	- -	- -	- -
C01	Covington Wash	2520 to 2522 2519 to 2520 2518 to 2519	SR 62 to La Contenta Dejano Tr. to SR 62 Joshua Dr. to Dejano Tr. Juarez to Joshua Dr. Project Limit to Juarez	22+63 to 100+00 100+00 to 147+76 147+76 to 175+12 175+12 to 213+79	MFP MFP MFP MFP	0.027 0.029 0.031 0.039	300.0 300.0 200.0 300.0	(3.3) (3.2) (4.0) (1.6)	5:1 5:1 5:1 5:1	0.045 0.045 0.045 0.045	a,d -	- - -	11,820 11,820 11,820 4,195	35.0 -	23 24 25

* See Appendix E

Facility No.	Facility Name	Node to Node	Location	Station to Station	Type of Facility	Channel Slope	Base Width/Diameter	Depth (feet) Design (Normal)	Sideline	Manning's "n"	Notes	25-Year Flowrate (cfs)	100-Year Flowrate (cfs)	Velocity (fps)	Sheet # Number	
C02	Carmelita Wash East Fork	1523.01 to 1523.01	Carmelita to Covington Wash	0+00 to 27+00	MFP	0.038	300.0	(2.6)	5:1	0.045		9,480	9,480	-	25	
		1523 to 1523.01		27+00 to 38+31	MFP	0.038	300.0	(2.6)	5:1	0.045			9,426	9,426		-
		1522 to 1523		38+31 to 49+00	MFP	0.037	300.0	(1.7)	5:1	0.045		a	4,838	4,838		-
		1520 to 1522		49+00 to 88+24	MFP	0.037	300.0	(1.7)	5:1	0.045		a	4,799	4,799		-
C03	Black Rock Wash	1558 to 1523		0+00 to 7+12	MFP	0.029	300.0	(2.0)	5:1	0.045		5,583	5,583	-	26	
		1557 to 1558		7+12 to 24+34	MFP	0.040	300.0	(1.8)	5:1	0.045			5,367	5,367		-
		1556 to 1557		24+34 to 39+00	MFP	0.040	300.0	(1.8)	5:1	0.045			5,203	5,203		-
		1555 to 1556		39+00 to 51+22	MFP	0.040	300.0	(1.8)	5:1	0.045			5,132	5,132		-
LOCAL	Black Rock Wash Tributary	1599 to 1557			MFP	0.036	300.0	(0.29)	5:1	0.045		233	233	-	26	
		1590 to 1558		0+00 to 12+00	MFP	0.049	300.0	(0.42)	5:1	0.045			527	527		-
		1588 to 1590		12+00 to 29+23	MFP	0.049	300.0	(0.36)	5:1	0.045			401	401		-
		1587 to 1588			MFP	0.053	300.0	(0.24)	5:1	0.045			198	198		-
C04	La Contena Wash	1595 to 1588		0+00 to 30+50	MFP	0.053	300.0	(0.19)	5:1	0.045		132	132	-	32	
		2609 to 2610		30+50 to 60+00	MFP	0.039	30.0	(2.5)	5:1	0.045			1,094	1,094		-
		2608 to 2609		60+00 to 88+37	MFP	0.043	50.0	(1.9)	5:1	0.045			1,048	1,048		-
		2087 to 2608		88+37 to 105+00	MFP	0.043	50.0	(1.3)	5:1	0.045			541	541		-
LOCAL	Skyline Ranch Wash	2605 to 2606		0+00 to 20+83	MFP	0.046	50.0	(0.95)	5:1	0.045		338	338	-	27	
		1612 to 1612.2		20+83 to 41+00	MFP	0.022	100.0	(3.2)	5:1	0.045			3,523	3,523		-
		1611 to 1612		41+00 to 61+00	MFP	0.020	50.0	(4.6)	5:1	0.045			2,571	2,571		-
		1610 to 1611		61+00 to 76+23	MFP	0.024	50.0	(3.2)	5:1	0.045			1,987	1,987		-
LOCAL	Sierra Vista Wash	1651 to 1652		0+00 to 10+00	MFP	0.048	40.0	(1.4)	5:1	0.045		553	553	-	28	
		1641 to 1641		10+00 to 26+70	MFP	0.015	50.0	(3.0)	5:1	0.045			863	863		-
		1639 to 1640		26+70 to 30+00	MFP	0.027	50.0	(1.9)	5:1	0.045			446	446		-
		1653 to 1641		30+00 to 46+90	MFP	0.034	50.0	(1.8)	5:1	0.045			445	445		-
V01	Sierra Vista Wash	1718 to 1725		0+00 to 35+00	MFP	0.030	30.0	(1.7)	5:1	0.045		306	306	-	29	
		1732 to 1710		35+00 to 66+45	MFP	0.028	30.0	(4.0)	5:1	0.045			2,158	2,158		-
		1731 to 1732		66+45 to 114+95	MFP	0.025	40.0	(3.6)	5:1	0.045			1,121	1,121		-
		1730 to 1731		114+95 to 122+11	RGSS	0.051	20.0	6.4	(2.6)	2:1	0.029	d	764	764		-
LOCAL	Chijmunk Wash	1709 to 1710		0+00 to 15+73	MFP	0.029	10.0	(3.3)	5:1	0.045		469	469	-	30	
		1708 to 1709		15+73 to 22+50	MFP	0.029	10.0	(2.6)	5:1	0.045			479	479		-
		1707 to 1708		22+50 to 37+83	MFP	0.029	10.0	(1.8)	5:1	0.045			245	245		-
		1706 to 1707		37+83 to 51+22	MFP	0.028	10.0	(2.5)	2:1	0.025	d		496	496		-
LOCAL	Sierra Vista Wash	1709 to 1710		122+11 to 124+67	SBC	0.034	20.0	(2.1)	5:1	0.045		496	496	-	30	
		1708 to 1709		124+67 to 135+24	MFP	0.034	20.0	(1.4)	5:1	0.045			394	394		-
		1707 to 1708		135+24 to 154+62	MFP	0.040	30.0	(2.2)	5:1	0.045			356	356		-
		1706 to 1707		154+62 to 177+07	MFP	0.036	10.0	(2.2)	5:1	0.045			316	316		-

* See Appendix E

Facility No.	Facility Name	Node to Node	Location	Station to Station	Type of Facility	Channel Slope	Base Width/ Diameter	Depth (feet) Design (Normal)	Slopes	Manning's "n"	Notes	25-Year Flowrate (cfs)	100-Year Flowrate (cfs)	Velocity (fps)	Sheet Number
V01-03	Hillcrest Wash	1716 to 1710	Warren Vista Ave. to Sierra Vista Wash	0+00 to 2+87	SBC	0.035	8.0	5.5 (2.0)	2:1	0.025	d	347	-	14.2	31
			Roberts to Warren Vista Ave.	2+87 to 10+79	MFP	0.034	10.0	(2.2)	5:1	0.045		347	-	-	
				10+79 to 25+28	MFP	0.049	10.0	(2.0)	5:1	0.045		334	-	-	
		1715 to 1716		25+28 to 51+25	MFP	0.033	10.0	(2.1)	5:1	0.045		313	-	-	

* See Appendix E

Facility Types:

- MFP - Managed Floodplain
- SBC - Soft-Bottom Channel
- RRSS - Rock-Revetted Slope Slopes
- RLC* - Concrete - Lined Channel
- RCP - Reinforced Concrete Pipe
- STF - Street Flow

() Normal depth of flow

• Where velocities exceed 15 fps grading of the rock will be considered when the use of larger rock sizes is impractical.

Notes:

- a. At-grade street crossing, no access roads.
- b. Flow not bulked.
- c. 2.5 feet added for freeboard.
- d. Channel depth is 1.5 times normal depth + 2.5 feet of freeboard.
- e. Street with inverted crown and 2% crossfall. Depth indicated is at curb.
- f. Estimated 100-year flow rate obtained from interpolation of hydrograph peak discharges between two nodes.

TABLE 5

Summary of Hydraulic Sizing Calculations, Regional, Secondary,
and Local Facilities, Detained Alternative

Table 5

YUCCA VALLEY MASTER PLAN OF DRAINAGE

Summary of Hydraulic Sizing Calculations

REGIONAL, SECONDARY, AND LOCAL FACILITIES

DETAINED ALTERNATIVE

Facility No.	Facility Name	Node to Node	Location	Station to Station	Type of Facility	Channel Slope	Base Width/ Diameter	Depth (feet) Design (Normal)	Sidewalk	Manning's "n"	Notes	25-Year Flowrate (cfs)	100-Year Flowrate (cfs)	Velocity (fps)	Figure Number		
Y01	Yucca Wash	138 to 139	Ronald Dr. to Yucca Mesa	1+50 to 21+65	RRSS	0.014	60.0	12.9 (6.9)	2:1	0.028	d	-	10,097	19.8	9		
		137 to 138	Goleta Ave. to Ronald Dr.	21+65 to 26+84	RRSS	0.014	60.0	12.9 (6.9)	2:1	0.028	d.1	-	9,965	19.7			
		136 to 137	Avdon Ave. to Goleta Ave.	36+84 to 45+50	RRSS	0.014	60.0	12.9 (6.8)	2:1	0.028	d.1	-	9,843	16.8			
		135.1 to 136	Prescott Ave. to Avdon Ave.	55+50 to 72+00	RRSS	0.009	60.0	14.5 (7.6)	2:1	0.028	d	-	9,665	16.8			
		135 to 135.1	Prescott Rd. to Prescott Ave.	72+00 to 87+61	RRSS	0.009	60.0	14.5 (7.6)	2:1	0.028	d.1	-	9,562	16.7			
		134 to 135	Burnt Mt. Wash to Prescott Rd.	87+61 to 101+99	RRSS	0.009	60.0	14.5 (7.6)	2:1	0.028	d.1	-	8,533	14.1			
		133 to 134	OWS Channel to Burnt Mt. Wash	101+99 to 118+57	RRSS	0.006	60.0	14.5 (7.3)	2:1	0.028	d	-	7,888	14.5			
		132 to 133	OWS Rd. to OWS Channel	118+57 to 147+22	RRSS	0.007	60.0	13.5 (7.1)	2:1	0.028	d	-	7,472	14.2			
		131 to 132	Buena Vista Wash confl. to OWS Rd.	147+22 to 161+70	RRSS	0.007	60.0	13.5 (7.1)	2:1	0.028	d	-	6,241	13.4			
		130 to 131	Sage Ave. to Buena Vista Wash	161+70 to 175+41	RRSS	0.007	60.0	12.1 (6.4)	2:1	0.028	d	-	6,241	23.7			
		129 to 130	(EXISTING)		Long Canyon confl. to Sage Ave.	175+41 to 178+42	CLC	0.009	65.0	11.0 (4.1)	Vert.	0.014	c	-		3,446	9.8
					340' U/S of confluence to Long Cyn. confl.	178+42 to 181+82	CLC	0.009	32.0	11.0 (4.6)	Vert.	0.014	c	-		3,446	23.5
					239' D/S of Grand Ave. to 340' U/S of Long C	181+82 to 186+17	RLC	0.007	38.0	11.0 (5.3)	1.5:1	0.035	c	-		3,446	9.8
128 to 129	(EXISTING)		Falm Ave to 239' D/S of Grand Ave.	186+17 to 202+53	RRSS	0.009	30.0	12.0 (6.1)	2:1	0.030	d	-	3,241	12.7			
127.1 to 128			Water Cyn. to Falm Ave.	202+53 to 213+94	RRSS	0.009	30.0	12.0 (6.1)	2:1	0.030	d	-	1,706	9.8			
127 to 127.1			SR 62 to Water Cyn. Confl.	213+94 to 220+100	RRSS	0.007	30.0	9.3 (4.5)	2:1	0.029	d	-	1,660	13.6			
117 to 127			Acocma Trail to SR 62	220+100 to 223+36	RRSS	0.016	18.0	9.6 (4.7)	2:1	0.030	d	-	1,327	10.4			
116 to 117			Deer Trail to Acocma Trail	223+36 to 235+00	RRSS	0.009	18.0	9.6 (4.7)	2:1	0.030	d	-	1,149	11.2			
115 to 116				235+00 to 238+33	RRSS	0.012	16.0	8.8 (4.2)	2:1	0.030	d	-	1,069	17.8			
112.1 to 115			Along Deer Trail	238+33 to 243+93	CLC	0.010	16.0	7.2 (3.1)	1:1	0.014	d	-	927	16.4			
420 to 422				Along Elk Trail	243+93 to 248+23	CLC	0.009	16.0	7.2 (3.0)	1:1	0.014	d	-	821	17.9		
106 to 112.1			Yucca Wash Tributaries:	248+23 to 252+44	CLC	0.013	16.0	7.2 (2.5)	1:1	0.014	d	-	104	-	9.7		
LOCAL			Church Channel	123 to 125	Papago Trail to Yucca Wash		SBC	0.033	8.0	4.2 (1.1)	2:1	0.025	d	104	-	9.6	
					Pueblo Trail to Papago Trail		SBC	0.033	8.0	4.2 (1.1)	2:1	0.025	d	102	-	10.2	
					Omaha Trail to Pueblo Trail		SBC	0.040	8.0	4.0 (1.0)	2:1	0.025	d	102	-	8.8	
419 to 420			Along Deer Trail		STF	0.035	26.0	(0.3)			0.018	c	183	-	10.5		
419 to 420	Along Elk Trail		STF	0.030	26.0	(0.5)			0.018	e	173	-	9.8				

Facility No.	Facility Name	Node to Node	Location	Station to Station	Type of Facility	Channel Slope	Base Width/Diameter	Depth (feet) Design (Normal)	Slopes	Manning's "n"	Notes	25-Year Flowrate (cfs)	100-Year Flowrate (cfs)	Velocity (fps)	Figure Number	
LOCAL	West Burnt Min. Wash Tributary	941 to 911	Beginning ~3000' US San Andreas Rd.		MFP	0.033	20.0	(1.5)	4:1	0.045		294	-	-	21	
					MFP	0.030	20.0	(1.5)	5:1	0.045		279	-	-		
					MFP	0.030	20.0	(1.5)	5:1	0.045		252	-	-		
					MFP	0.030	20.0	(1.0)	5:1	0.045		130	-	-		
					MFP	0.067	10.0	(1.2)	4:1	0.045		135	-	-		
LOCAL	West Burnt Min. Wash Tributary	930 to 907	Beginning at San Andreas Rd.		R/C	0.035	8.0	6.7	1.5:1	0.035	a,d	426	-	12.2	22	
Y02-01	Warren Vista Drain	928 to 909	San Andreas to W. Burnt Min. Wash	0+00 to 30+64	MFP	0.035	20.0	(1.5)	4:1	0.045		328	-	-	22	
Y02-01	Warren Vista Drain	937 to 938		30+64 to 50+10	MFP	0.150	20.0	(0.9)	4:1	0.045		214	-	-		
LOCAL	Extension of Y02-01	936 to 937			MFP	0.033	10.0	(3.0)	4:1	0.045		609	-	-	21	
Y02-02	Extension of Y02	905 to 906	to San Andreas	68+76 to 71+58	MFP	0.053	20.0	(1.4)	4:1	0.045		296	-	-		
LOCAL	Extension of Y02-02	925 to 903			MFP	0.039	20.0	(1.4)	4:1	0.045		239	-	-	22	
		904 to 905			MFP	0.039	20.0	(0.9)	4:1	0.045		126	-	-		
Y03	East Burnt Min. Wash	1018 to 1019	Pueblo Trail to West Burnt Min. Wash	0+00 to 19+55	R/CB	0.021	6.0	6.0	Vert.	0.014	b	-	746	23.6		
		1017 to 1018	Onaga Trail to Pueblo Trail	19+55 to 33+63	R/CB	0.021	6.0	6.0	Vert.	0.014	b	-	746	23.6		
		1016 to 1017	E. Burnt Min. Basin to Lucene Vista	33+63 to 48+60	R/C	0.034	6.0	5.6	3:1	1.5:1	a,b,c	-	388	12.1		
		1014 to 1016	Inghua Dr. to E. Burnt Min. Basin	0+00 to 30+41	R/C	0.034	16.0	9.7	4:3	1.5:1	a,d	-	1,919	17.4	23	
		1013 to 1014	Bonanza Dr to Joshua Dr	30+41 to 39+26	R/SS	0.026	16.0	8.1	3:1	2:1	0.028	a,d	-	1,681	19.4	
		1012 to 1013	El Dorado to Bonanza Dr	39+26 to 53+82	R/SS	0.034	12.0	7.9	3:6	2:1	0.029	a,d	-	1,187	17.2	
		1011 to 1012	Juarez Dr. to El Dorado	53+82 to 71+00	R/SS	0.038	12.0	7.6	3:4	2:1	0.029	a,d	-	1,148	17.7	
		1010 to 1011	San Andreas to Juarez Dr.	71+00 to 87+43	R/SS	0.038	12.0	7.6	3:3	2:1	0.029	a,d	-	1,039	17.3	
		1009 to 1011	Santa Maria Dr. to San Andreas	87+43 to 108+12	MFP	0.040	20.0	(3.0)	4:1	0.045		-	1,039	-	24	
		1008 to 1009		108+12 to 124+28	MFP	0.040	20.0	(2.9)	4:1	0.045		-	1,009	-		
Y03-02	Extension of Y03	1007 to 1008		124+28 to 146+80	MFP	0.044	20.0	(2.5)	4:1	0.045		787	-	-		
Y03-01	East Burnt Min. Wash Tributary	1018.6 to 1019	Beginning at Pueblo tr. To Yucca Trail	0+00 to 9+12	SBC	0.029	8.0	5.8	(2.2)	2:1	0.025	a,d	350	13.3		
LOCAL	Extension of Y03-01	1018.5 to 1018.6			SBC	0.029	8.0	4.2	(1.1)	2:1	0.025	a,d	103	9.2	23	
LOCAL	East Burnt Min. Wash Tributary	1055 to 1017	Beginning at Navajo tr. To Yucca Trail		MFP	0.015	10.0	(2.3)	4:1	0.045		244	-	5.4		
		1054 to 1055			STF	0.016	26.0	(0.8)		0.018	a,d	235	-	9.6		
Y04	OWS Channel (EXISTING)	1313 to 133	Basin Outlet to Yucca Wash	0+00 to 20+65	CLC	0.046	10.0	7.0	(3.6)	Vert.	0.014	b,c	1,337	37.2		
Y04	OWS Channel (EXISTING)	1312 to 1313	OWS Road to Basin	0+00 to 13+94	R/C	0.076	24.0	8.0	(2.6)	1.5:1	0.035	-	1,418	19.6		
Y04	OWS Channel	1310 to 1312	~500' US Buena Vista to OWS Rd.	13+94 to 21+56	R/C	0.078	12.0	6.7	(2.8)	1.5:1	0.035	d	802	19.3		
Y04-01	Favello Wash	1321 to 1312		0+00 to 11+86	SBC	0.083	8.0	4.9	(1.6)	2:1	0.023	d	352	19.3	24	
LOCAL	Extension of Y04-01	1320 to 1321			SBC	0.082	8.0	4.6	(1.4)	2:1	0.025	d	252	17.4		
		1319 to 1320			SBC	0.070	8.0	4.6	(1.4)	2:1	0.025	d	235	16.1		
Y04-02	Excursion of Y04	1308 to 1310	San Rafael to Oakwood	31+56 to 49+12	R/C	0.062	12.0	6.4	(2.6)	1.5:1	0.035	d	669	16.3		
		1307 to 1308		49+12 to 60+87	R/SS	0.082	8.0	5.4	(1.9)	2:1	0.028	d	404	18.5		
		1306 to 1307			R/SS	0.070	8.0	5.4	(1.6)	2:1	0.028	d	285	15.8		
		1305 to 1306			MFP	0.072	10.0		(1.8)	4:1	0.045		267	-		
Y05	Buena Vista Wash	1110 to 131	Sage Chinn. Cont'd to Yucca Wash	0+00 to 11+02	R/SS	0.008	30.0	10.0	(3.0)	2:1	0.027	a,d	2,109	10.5	19	
		1109 to 1110	Grand Ave. to Sage Chinn.	11+02 to 26+03	SBC	0.010	20.0	7.6	(3.4)	2:1	0.025	a,d	1,022	11.2		
		1108 to 1109	Palm Ave. to Grand Ave.	26+03 to 40+17	SBC	0.012	20.0	7.6	(3.1)	2:1	0.025	a,d	939	11.7		

Facility No.	Facility Name	Node to Node	Location	Station to Station	Type of Facility	Channel Slope	Base Width/Diameter	Depth (feet) Design (Normal)	Sideline	Manning's "n"	Notes	25-Year Flowrate (cfs)	100-Year Flowrate (cfs)	Velocity (ft/s)	Figure Number	
LOCAL Y05-01	Extension of Y05 Buena Vista Wash Tributaries	1107 to 1108	Tamisk Ave. to Palm Ave.	40+17 to 51+61	SBC	0.015	10.0	6.4 (2.6)	2:1	0.025	a,d	438	-	10.9		
		1145 to 1110	Between Sunnylope & Sunland Dr.		MFP	0.005	10.0	(2.2)	4:1	0.045			127	-	-	
		1135 to 1108	Confluents at Palm Ave.		MFP	0.007	10.0	(3.1)	4:1	0.045			289	-	-	
		1126 to 1107	Confluents at Tamisk Ave.		STF	0.072	26.0	(0.4)			0.018	e	194	-	14.2	19
		1106 to 1107	Along Buena Vista Wash		STF	0.014	36.0	(0.4)			0.018	e	246	-	11.5	
LOCAL Y06	Sage Channel	1105 to 1106	Be/ Sunnylope Dr. and Buena Vista		SBC	0.014	10.0	4.6 (1.4)	2:1	0.025	a,d	246	-	13.0		
		1212 to 1110	Between Mohawk Dr. and Scaven Dr. from Sunnylope to Yucca Wash to Sunnylope Dr.	0+00 to 4+09	MFP	0.098	10.0	(1.3)	4:1	0.045			199	-	-	
					4+09 to 7+44	RLC	0.050	30.0	5.7 (2.1)	1.5:1	0.035	a,d	-	979	14.2	
					7+44 to 17+25	STF	0.050	36.0	(1.1)		0.018	e	-	979	21.1	
					Facility limit to Sunnylope Dr.	RLC	0.060	30.0	5.5 (2.0)	1.5:1	0.035	d	-	979	19.1	
LOCAL Y07	Long Canyon Channel (EXISTING)	824 to 130	-450 US of Yucca Wash to YV confl.	0+00 to 4+50	2-CLC	0.020	15.5	11.0 (3.6)	Vert.	0.014	b	-	3,453	30.8		
			Culvert at Anielope Tr. To -450 US YV	4+50 to 10+00	CLC	0.020	31.0	11.0 (3.6)	Vert.	0.014	b	-	3,453	30.8		
			SR 62 to culvert at Anielope Tr.	10+00 to 16+60	CLC	0.020	28.0	11.0 (3.9)	Vert.	0.014	b	-	3,453	31.6	12	
			Hospital Chnl confl. To SR 62	16+60 to 21+90	RLC	0.017	30.0	8.4 (5.9)	1.5:1	0.035	b,c	-	3,432	14.0		
			Navajo Trail to Hospital Chnl confl.	23+90 to 60+00	RLC	0.033	12.0	7.3 (4.8)	1.5:1	0.035	a,b,c	-	1,539	16.6		
LOCAL Y07	Long Canyon Channel	823 to 824	Joshua Dr. to Navajo Trail	60+00 to 78+92	RLC	0.023	12.0	7.3 (4.8)	1.5:1	0.035	a,b,c	-	1,507	16.5		
		821 to 823	Golden Bee Dr. to Long Canyon Basin	0+00 to 22+17	RLC	0.026	30.0	11.2 (5.8)	1.5:1	0.035	d	-	4,846	21.6		
		820 to 821	Golden Bee Dr. to Golden Bee Dr.	22+17 to 30+00	MFP	0.039	20.0	(6.0)			0.045		-	4,248	-	
		819 to 820	Joshua Dr. to Golden Bee Dr.	30+00 to 47+96	MFP	0.039	20.0	(5.9)	4:1	0.045			-	4,061	-	13
		818 to 819	Town Limit to Ivanhoe Dr.	42+96 to 54+80	MFP	0.038	20.0	(5.8)	4:1	0.045			-	3,892	-	
LOCAL Y07-01	Sage Avenue Drain	816 to 817		54+80 to 88+65	MFP	0.040	20.0	(5.6)	4:1	0.045		-	3,643	-		
		813 to 816		88+65 to 104+59	MFP	0.061	20.0	(4.1)	4:1	0.045			-	2,379	-	
		812 to 813		0+00 to 3+55	SBC	0.023	8.0	5.8 (2.2)	2:1	0.025	d	-	314	-	11.8	
		884 to 820	Desert Gold to Long Cyn confl.	3+55 to 13+40	STF	0.036	26.0	(0.7)			0.018	e	314	-	13.8	
		883 to 884	Golden Bee to Desert Gold		STF	0.044	26.0	(0.6)			0.018	e	263	-	13.7	14
LOCAL Y08	Long Canyon Channel Tributaries	882 to 883	Facility Limit to Golden Bee		MFP	0.046	25.0	(3.1)	4:1	0.045		-	1,443	-		
		830 to 813		16+50 to 36+23	MFP	0.046	25.0	(2.9)	4:1	0.045			-	1,288	-	
		829 to 830		0+00 to 10+00	RLC	0.016	26.0	7.8 (5.3)	1.5:1	0.035	b,c	-	2,431	13.5		
		708 to 823	H.S. Chnl confl. to Long Cyn.	10+00 to 27+08	RLC	0.016	26.0	7.8 (5.2)	1.5:1	0.035	b,c	-	2,345	13.4		
		612 to 708	Pueblo Trail to H.S. Chnl confl.	27+08 to 36+89	RLC	0.026	26.0	6.9 (4.4)	1.5:1	0.035	b,c	-	2,226	15.6	15	
LOCAL Y09	Hospital Channel	611 to 612	Omega Trail to Pueblo Trail	36+89 to 64+55	RLC	0.037	15.0	9.7 (4.8)	1.5:1	0.035	a,d	-	1,923	18.1		
		610 to 611	Joshua Dr. to Omega Trail	64+55 to 75+00	RLC	0.051	15.0	7.8 (3.5)	1.5:1	0.035	a,d	-	1,272	18.0		
		609 to 610	El Donado Dr. to Joshua Dr.	75+00 to 84+00	RLC	0.051	15.0	7.8 (3.4)	1.5:1	0.035	a,d	-	1,187	17.6		
		608 to 609	Omega Trl. To Hospital Chnl confl.	0+00 to 17+14	RLC	0.033	12.0	5.7 (2.1)	1.5:1	0.035	a,d	-	341	-	10.7	
		707 to 708	Mountain View to Omega Trail		SBC	0.033	8.0	5.1 (1.7)	2:1	0.025	a,d	-	233	-	12.3	16
LOCAL Y09-01	High School Channel	705 to 707	Grand to Mountain View		SBC	0.033	8.0	4.8 (1.5)	2:1	0.025	a,d	-	181	-	11.5	
		635 to 610	Golden Bee Dr.		SBC	0.005	16.0	5.4 (1.9)	2:1	0.025	d	-	201	-	5.4	
		634 to 635	Golden Bee Dr. to Desert Gold		STF	0.059	36.0	(0.3)			0.018	e	201	-	12.0	
		633 to D/S 608	Along El Donado Dr.		RCB	0.010	6.0	6.0 (4.5)	Vert.	0.014		-	413	-	15.6	16
			Along Cholla Ave. to El Donado Dr.		RCL	0.052	6.0	6.7 (2.8)	1.5:1	0.035	d	-	413	-	14.3	

Table 5
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Facility No.	Facility Name	Node to Node	Location	Station to Station	Type of Facility	Channel Slope	Base Width/Diameter	Depth (feet) Design (Normal)	Sidewalk	Manning's "n"	Notes	25 - Year Flowrate (cfs)	100 - Year Flowrate (cfs)	Velocity (ft/s)	Figure Number				
LOCAL Y09-03	Extension of Y09-02 Hospital Channel	632 to 633	El Dorado Dr. to Golden Bee Dr. Golden Bee Dr. to Carlyle Dr. Kismet Rd. to Golden Bee Dr. Deer Trail Channel cont'd. To Hospital Channel Facility Limit to Deer Trail Channel	84+00 to 88+72	MFP	0.052	10.0	5.7	4:1	0.045		298	-	-	16				
		608 to 609		84+72 to 106+00	RLC	0.051	15.0	5.7	1.5:1	0.035	d	-	524	-	13.6	15			
		607 to 608		106+00 to 112+60	MFP	0.054	10.0	7.2	4:1	0.045		-	484	-	-				
		606 to 607		0+00 to 39+97	MFP	0.054	10.0	5.6	3:1	1.5:1	0.045	b,c	-	648	-	14.0			
Y10	Acoma Channel	523 to 611		0+00 to 14+39	RRSS	0.039	10.0	7.2	3:1	0.027	a,d	-	1,470	17.8	17				
		516 to 523		14+39 to 26+16	MFP	0.032	20.0	7.2	3:1	0.045		-	1,430	-					
				26+16 to 33+85	RRSS	0.041	25.0	7.2	3:1	1.5:1	0.045		-	2,744		-			
				33+85 to 43+25	MFP	0.043	25.0	7.2	3:1	1.5:1	0.045		-	1,317		-			
				43+25 to 51+00	MFP	0.050	25.0	7.2	3:1	1.5:1	0.045		-	1,252		-			
				51+00 to 58+33	MFP	0.055	25.0	7.2	3:1	1.5:1	0.045		-	1,148		-			
				58+33 to 70+25	MFP	0.049	30.0	7.2	3:1	1.5:1	0.045		-	930		-			
				70+25 to 77+58	MFP	0.068	30.0	7.2	3:1	1.5:1	0.045		-	383		-			
		Y10-01		Extension of Y10	516 to 527		77+58 to 81+00	MFP	0.079	30.0	8.1	3:1	0.045			210	-	-	17
		LOCAL		Extension of Y10	515 to 516		81+00 to 3+00	RRSS	0.040	12.0	8.1	3:1	a,d	-		1,344	18.9		
Y11	Deer Trail Channel	511 to 522.1	Desert Gold to Acoma Channel Town Limit to Desert Gold	3+00 to 15+65	RRSS	0.056	12.0	7.3	2:1	0.029	a,d	-	1,211	21.0	17				
		508 to 511		15+65 to 32+48	MFP	0.056	20.0	7.3	2:1	0.045		-	1,178	-					
				32+48 to 47+63	MFP	0.067	20.0	7.3	2:1	1.5:1	0.045		-	935		-			
				47+63 to 51+00	SBC	0.067	12.0	7.3	2:1	1.5:1	0.025	d	-	132		-			
LOCAL	Deer Trail Channel Tributary (EXISTING)	505 to 508		51+00 to 64+98	MFP	0.049	20.0	7.3	2:1	0.045		610	-	-	21				
Y11-01	Extension of Y11	503 to 505		64+98 to 75+42	MFP	0.066	20.0	7.3	2:1	0.045		509	-	-					
		503 to 505		75+42 to 81+37	MFP	0.076	20.0	7.3	2:1	0.045		481	-	-					
		503 to 505		81+37 to 84+96	MFP	0.067	30.0	7.3	2:1	0.045		405	-	-					
LOCAL	Extension of Y11-01	324 to 328		84+96 to 89+96	MFP	0.075	30.0	7.3	2:1	0.045		204	-	-	7				
Y12	Water Canyon Channel	328 to 324		89+96 to 22+32	RLC	0.023	18.0	7.6	4:1	0.035	a,b,c	-	1,957	15.1					
		324 to 324		22+32 to 29+21	RLC	0.038	18.0	7.2	4:1	0.035	a,b,c,i	-	1,921	17.9					
		321 to 323		29+21 to 56+00	RLC	0.038	18.0	7.2	4:1	0.035	a,b,c,i	-	1,874	17.8					
		320 to 321		56+00 to 66+52	RRSS	0.031	100.0	3.9	2:1	0.026	a,b,c,i	-	1,706	12.1					
		319 to 320		66+52 to 87+52	RRSS	0.031	100.0	3.9	2:1	0.026	a,b,c,i	-	1,685	12.0					
		318 to 319		87+52 to 88+38	MFP	0.027	150.0	3.9	2:1	0.026	a,b,c,i	-	1,556	-					
Y12-01	Water Canyon Tributary	322.6 to 323		88+38 to 89+96	STF	0.018	26.0	3.9	1:1	0.018	c	337	-	11.5	7				
		210 to 210.1		89+96 to 15+73	STF	0.018	26.0	3.9	1:1	0.018	c	324	-	11.3					
K01	Kicakpoo Drain	209 to 210		15+73 to 6+78	SBC	0.031	6.0	5.9	2:1	0.025	b,c	-	750	17.0	8				
		208 to 209		6+78 to 22+80	RCP	0.043	4.5	3.2	Vert.	0.013		-	348	28.8					
		224 to 210		22+80 to 29+95	RCP	0.043	4.5	3.2	Vert.	0.013		-	313	28.3					
		223 to 224		29+95 to 10+23	SBC	0.005	6.0	9.0	3:1	0.025	b,c	314	-	6.9					
LOCAL	Extension of K01	222 to 223		10+23 to 12+00	SBC	0.030	6.0	5.0	2:1	0.025	b,c	314	-	13.3					
LOCAL	Extension of K01	206 to 208		12+00 to 13+98	RCP	0.030	4.5	3.4	4:1	0.013	b	166	-	24.3					
LOCAL	La Honda Drain	218 to 219		13+98 to 19+03	MFP	0.044	10.0	3.4	4:1	0.045		627	-	-					
LOCAL	La Honda Basin	218 to 219		19+03 to 13+95	RCP	0.039	4.5	3.1	4:1	0.013		314	-	26.9					
LOCAL	La Honda Basin	218 to 219		13+95 to 13+95	RCP	0.039	4.5	3.1	4:1	0.013		314	-	26.9					
LOCAL	La Honda Basin	218 to 219		13+95 to 13+95	RCP	0.039	4.5	3.1	4:1	0.013		314	-	26.9					

Facility No.	Facility Name	Node to Node	Location	Station to Station	Type of Facility	Channel Slope	Base Width/Diameter	Depth (feet) Design (Normal)	Side Slope	Manning's "n"	Notes	25 - Year Flowrate (cfs)	100 - Year Flowrate (cfs)	Velocity (fps)	Figure Number
LOCAL	Jemez Trail Wash	215 to 218	Along Santa Fe Trail	0+00 to 11+50	STF	0.039	36.0	(0.49)		0.018	c	297	-	12.3	8
				11+50 to 25+50	STF	0.042	26.0	(0.28)		0.018	c	164	-	10.0	
				25+50 to 251	RLC	0.043	4.0	5.4	1.5:1	0.035	d	123	-	9.8	
P01	Pinon Creek	237 to lake	Bed Mountain View and Onaga Trail	44+03 to 50+00	RRSS	0.067	40.0	5.7	2:1	0.027	a,d	-	2,168	23.4	5
				50+00 to 76+45	RRSS	0.068	30.0	5.8	2:1	0.027	a,d	-	1,742	21.5	
				76+45 to 92+50	RRSS	0.068	30.0	5.8	2:1	0.027	a,d	-	1,742	21.5	
LOCAL	Pinon Creek Tributary (EXISTING)	241 to 242	Rockaway / Pinon Dr. int. to Pinon Creek confl.	92+50 to 100+00	MFP	0.046	30.0	(2.8)	4:1	0.045		-	1,430	-	7
				100+00 to 119+54	MFP	0.048	25.0	(2.3)	4:1	0.045		-	814	-	
				119+54 to 237	RLC	0.048	10.0	8.0	1.5:1	0.035		152	-	10.6	
LOCAL	Camino del Cielo	236 to 237	Along Camino del Cielo to Pinon Creek	0+00 to 11+50	STF	0.014	44.0	(0.93)		0.018	e	576	-	10.4	7
				11+50 to 25+50	MFP	0.032	10.0	(2.6)	4:1	0.045		432	-	-	
				25+50 to 235	MFP	0.036	40.0	(1.10)	4:1	0.045		282	-	-	
LOCAL	Extension of P01-01	234 to 235	Fairway to Pinon Dr.	0+00 to 14+38	MFP	0.065	30.0	(1.4)	1:1	0.045		500	-	-	28
				14+38 to 28+82	MFP	0.175	30.0	(0.89)	4:1	0.045		356	-	-	
				28+82 to 2572	RRSS	0.027	80.0	10.3	2:1	0.027	a,d	-	11,820	35.0	
C02	Camellia Wash East Fork	1523.01 to 1523.01	Project Limit to Juarez	22+63 to 100+00	MFP	0.027	300.0	(3.3)	5:1	0.045		-	11,820	-	27
				100+00 to 147+96	MFP	0.029	300.0	(3.2)	5:1	0.045		-	11,820	-	
				147+96 to 175+12	MFP	0.031	200.0	(4.0)	5:1	0.045		-	11,820	-	
C03	Black Rock Wash	1523.01 to 1523.01	Camellia to Covington Wash	175+12 to 213+79	MFP	0.039	300.0	(1.6)	5:1	0.045		-	4,195	-	29
				213+79 to 27+00	MFP	0.038	300.0	(2.6)	5:1	0.045		-	9,480	-	
				27+00 to 38+51	MFP	0.037	300.0	(1.7)	5:1	0.045	a	-	9,476	-	
LOCAL	Black Rock Wash Tributary	1522 to 1523	Project Limit to Juarez	38+51 to 49+00	MFP	0.037	300.0	(1.7)	5:1	0.045	a	-	4,838	-	30
				49+00 to 88+24	MFP	0.037	300.0	(1.7)	5:1	0.045	a	-	4,799	-	
				88+24 to 7+12	MFP	0.029	300.0	(2.0)	5:1	0.045		-	5,953	-	
LOCAL	Camellia Wash West Fork	1522 to 1523	Project Limit to Juarez	7+12 to 24+34	MFP	0.040	300.0	(1.8)	5:1	0.045		-	5,267	-	30
				24+34 to 33+00	MFP	0.040	300.0	(1.8)	5:1	0.045		-	5,205	-	
				33+00 to 51+32	MFP	0.040	300.0	(1.8)	5:1	0.045		-	5,132	-	
LOCAL	Camellia Wash West Fork Tributary	1522 to 1523	Project Limit to Juarez	51+32 to 0+00	MFP	0.036	300.0	(0.29)	5:1	0.045		233	-	-	36
				0+00 to 12+00	MFP	0.049	300.0	(0.42)	5:1	0.045		-	1,094	-	
				12+00 to 29+93	MFP	0.049	300.0	(0.36)	5:1	0.045		-	1,048	-	
LOCAL	Camellia Wash West Fork	1522 to 1523	Project Limit to Juarez	29+93 to 60+00	MFP	0.043	30.0	(2.2)	5:1	0.045		-	909	-	31
				60+00 to 88+37	MFP	0.043	30.0	(0.34)	5:1	0.045		-	541	-	
				88+37 to 105+00	MFP	0.043	50.0	(1.3)	5:1	0.045		-	338	-	
LOCAL	Camellia Wash West Fork	1522 to 1523	Project Limit to Juarez	105+00 to 110+00	MFP	0.046	50.0	(0.95)	5:1	0.045		-	-	-	31
				110+00 to 20+83	MFP	0.022	100.0	(3.2)	5:1	0.045		-	3,523	-	
				20+83 to 41+00	MFP	0.020	50.0	(4.6)	5:1	0.045		-	3,523	-	
LOCAL	Camellia Wash West Fork	1522 to 1523	Project Limit to Juarez	41+00 to 61+00	MFP	0.023	50.0	(3.7)	5:1	0.045		-	2,571	-	31
				61+00 to 76+25	MFP	0.024	50.0	(3.2)	5:1	0.045		-	1,987	-	

Facility	Location	Type of Facility	Tributary Area (ac)	Footprint (ac)	100 - Year Storage Volume (ac-ft)	Embankment Height (ft)	Notes
Water Canyon Basin	Pioneers Road near Town Boundary	DSB	5190	35	438	35	
La Honda Basin	La Honda Way near SR 62	SB	150	2	4	6	F
Kickapoo Basin	Kickapoo Trail near Navajo Trail	DSB	320	8	32	28	
Acama Basin	Acama Trail near Joshua Drive	DSB	1220	10	90	14	
Long Canyon Basin	Joshua Drive near Sage Avenue	DSB	2158	15	130	24	R
Old Woman Springs Basin	Old Woman Springs Road and Preston Road	SB	680	8	14	25	EG
West Burnt Mountain Basin	Joshua Lane near Joshua Drive	DSB	1105	20	95	18	
East Burnt Mountain Basin	Onaga Trail near Hillen Avenue	DSB	1185	20	194	32	J

Facility Types:

- MFP - Managed Floodplain
- SBC - Soft-Bottom Channel
- RRSS - Rock-Revetted Side Slopes
- RLC* - Rock-Lined Channel
- CLC - Concrete-Lined Channel
- RCP - Reinforced Concrete Pipe
- STF - Street Flow
- DSB - Detention Basin
- SB - Sediment Basin

() Normal depth of flow

* Where velocities exceed 15 fps grouting of the rock will be considered when the use of larger rock sizes is impractical.

Notes:

- a. At-grade street crossing, no access roads.
- b. Flow not bulked.
- c. 2.5 feet added for freeboard.
- d. Channel depth is 1.5 times normal depth + 2.5 feet of freeboard.
- e. Street with inverted crown and 2% crossfall. Depth indicated is at curb.
- f. Debris control inlet or basin with no significant flood peak reduction benefit.
- g. Existing basin to be enlarged.
- h. Existing basin not to be enlarged.
- i. Estimated 100 - year flow rate obtained from interpolation of hydrograph peak discharges between two nodes.
- j. Data shown is for more northerly location.

TABLE 6

Summary of Cost Estimates for the Non-Detained and Detained Alternatives

TABLE 6

YUCCA VALLEY MASTER PLAN OF DRAINAGE

SUMMARY OF COST ESTIMATES FOR THE NON-DETAINED AND DETAINED ALTERNATIVES

FACILITY NO.	CONVEYANCE FACILITIES	NON-DETAINED	DETAINED
Y01	YUCCA WASH	\$27,804,000	\$22,118,000
Y01-01	HANFORD AVENUE DRAIN	\$3,011,000	\$3,011,000
Y01-02	CRESTVIEW WASH	\$203,000	\$203,000
LOCAL	YUCCA WASH TRIBUTARIES	\$608,000	\$608,000
Y02	WEST BURNT MTN. WASH	\$14,331,000	\$7,768,000
Y03	EAST BURNT MTN. WASH	\$10,601,000	\$8,471,000
Y07	LONG CANYON CHANNEL	\$6,242,000	\$4,580,000
Y09	HOSPITAL CHANNEL	\$5,985,000	\$5,394,000
Y09-01	HIGH SCHOOL CHANNEL	\$532,000	\$532,000
LOCAL	CHOLLA AVENUE DRAIN	\$449,000	\$449,000
Y10	ACOMA CHANNEL	\$3,514,000	\$1,299,000
Y11	DEER TRAIL CHANNEL	\$680,000	\$680,000
Y12	WATER CANYON CHANNEL	\$8,963,000	\$4,479,000
K01	KICKAPOO DRAIN	\$2,734,000	\$686,000
K01-01	LA HONDA DRAIN	\$247,000	\$247,000
K01-03	INCA TRAIL WASH	\$632,000	\$632,000
P01	PINON CREEK	\$2,031,000	\$2,031,000
C01	COVINGTON WASH	\$2,885,000	\$2,885,000
V01	SIERRA VISTA WASH	\$401,000	\$401,000
V01-03	HILLCREST WASH	\$14,000	\$14,000
Y04	OWS CHANNEL	\$3,252,000	\$3,252,000
Y05	BUENA VISTA WASH	\$1,923,000	\$1,923,000
SUBTOTAL CONVEYANCE FACILITIES:		\$97,042,000	\$71,663,000
DETENTION FACILITIES			
	WATER CANYON BASIN	-	\$3,750,000
	KICKAPOO BASIN	-	\$640,000
	ACOMA BASIN	-	\$1,140,000
	LONG CANYON BASIN	-	\$1,750,000
	EAST BURNT MTN. BASIN	-	\$1,510,000
	WEST BURNT MTN. BASIN	-	\$1,160,000
SUBTOTAL DETENTION FACILITIES:			\$9,950,000
TOTAL FACILITIES COST:		\$97,042,000 *	\$81,613,000 *
10% Engineering & Design:		\$9,704,200	\$8,161,300
15% Construction, Supervision, Administration:		\$14,556,300	\$12,241,950
GRAND TOTAL FACILITIES COST:		\$121,302,500	\$102,016,250

* Costs include 30 % contingency allowance

TABLE 7

Cost Estimate for Non-Detained Alternative

Table 7

**YUCCA VALLEY MASTER PLAN OF DRAINAGE
COST ESTIMATE FOR NON-DETAINED ALTERNATIVE**

YUCCA WASH (Y01)				
Facility Description	Quantity	Unit	Unit Cost	Estimated Cost
Sta. 1 + 50 to Sta. 55 + 50 (5400')				
Soft-Bottom Chnrl b = 120', d = 11.2', z = 2				
* Excavation	367,776	CY	\$3.50	\$1,287,216
Rock-revetted side slopes	42,825	CY	\$50.00	\$2,141,259
Side-slopes protection at bottom control structures	1,484	CY	\$90.00	\$133,568
Fence & Gates	10,800	LF	\$11.00	\$118,800
Right-of-Way	1	AC	\$3,000.00	\$1,785
4 Bottom control structure(s)	3,456	CY	\$90.00	\$311,040
Culvert				
Yucca Mesa Road: (10) 14"W x 11.2'H (76')	1,193	CY	\$425.00	\$507,110
Indio Avenue: (10) 14"W x 11.2'H (54')	848	CY	\$425.00	\$360,315
Sta. 55 + 50 to Sta. 88 + 00 (3250')				
Soft Bottom Chnrl b = 120', d = 13.3', z = 2				
* Excavation	266,955	CY	\$3.50	\$934,343
Rock-revetted side slopes	29,371	CY	\$50.00	\$1,468,575
Side-slopes protection at bottom control structures	441	CY	\$90.00	\$39,653
Fence & Gates	6,500	LF	\$11.00	\$71,500
Right-of-Way	16	AC	\$3,000.00	\$47,720
1 Bottom control structure(s)	864	CY	\$90.00	\$77,760
Culvert				
Avalon Avenue: (10) 14.5"W x 13.3'H (76')	1,292	CY	\$425.00	\$549,100
Paxton Road: (10) 14.5"W x 13.3'H (76')	1,292	CY	\$425.00	\$549,100
Sta. 88+00 to Sta. 101 + 99 (1399')				
Soft Bottom Chnrl b = 120', d = 13.3', z = 2				
* Excavation	114,914	CY	\$3.50	\$402,199
Rock-revetted side slopes	12,540	CY	\$50.00	\$626,986
Side-slopes protection at bottom control structures	881	CY	\$90.00	\$79,306
Fence & Gates	2,798	LF	\$11.00	\$30,778
Right-of-Way	7	AC	\$15,000.00	\$102,709
2 Bottom control structure(s)	1,728	CY	\$90.00	\$155,520
Sta. 101 + 99 to Sta. 118 + 37 (1638')				
Soft Bottom Chnrl b = 120', d = 13.3', z = 2				
* Excavation	135,637	CY	\$3.50	\$474,731
Rock-revetted side slopes	14,713	CY	\$50.00	\$735,651
Side-slopes protection at bottom control structures	441	CY	\$90.00	\$39,653
Fence & Gates	3,276	LF	\$11.00	\$36,036
Right-of-Way	3	AC	\$15,000.00	\$44,109
1 Bottom control structure(s)	864	CY	\$90.00	\$77,760
Sta. 118 + 37 to Sta. 161 + 70 (4333')				
Soft-Bottom Chnrl b = 120', d = 12.4', z = 2				
* Excavation	328,268	CY	\$3.50	\$1,148,938
Rock-revetted side slopes	37,291	CY	\$50.00	\$1,864,538
Side-slopes protection at bottom control structures	411	CY	\$90.00	\$36,970
Fence & Gates	8,666	LF	\$11.00	\$95,326
Right-of-Way	8	AC	\$15,000.00	\$126,230
1 Bottom control structure(s)	864	CY	\$90.00	\$77,760
Culvert				
OWS Road: (10) 14.5"W x 12.4'H (82')	1,361	CY	\$425.00	\$578,510
Sta. 161 + 70 to Sta. 175 + 41 (1371')				
Soft-Bottom Chnrl b = 96', d = 13.0', z = 2				
* Excavation	87,744	CY	\$3.50	\$307,104
Rock-revetted side slopes	12,084	CY	\$50.00	\$604,186
Side-slopes protection at bottom control structures	431	CY	\$90.00	\$38,759
Fence & Gates	2,742	LF	\$11.00	\$30,162
Right-of-Way	2	AC	\$15,000.00	\$29,743
1 Bottom control structure(s)	691	CY	\$90.00	\$62,208
Riprap for 25' D/S of concrete-lined channel	267	CY	\$70.00	\$18,667

* Unit price includes \$1.00/CY for disposal of excess material.

**YUCCA VALLEY MASTER PLAN OF DRAINAGE
COST ESTIMATE FOR NON-DETAINED ALTERNATIVE**

YUCCA WASH (Y01) Continued				
Facility Description	Quantity	Unit	Unit Cost	Estimated Cost
Sta. 161 + 70 to Sta. 175 + 41 (1371') (CONTINUED)				
Culvert Sage Avenue: (8) 15.25'W x 13'HRCB (60') Existing: (5) 12.5'W x 11'HRCB	840	CY	\$425.00	\$357,000
Sta. 175 + 41 to Sta. 178 + 42 (301')				
Existing Concrete-Lined Chnrl b = 65', d = 11.0', z = vert.	-			\$0
Sta. 178 + 42 to Sta. 181 + 82 (340')				
Existing Concrete-Lined Chnrl b = 32', d = 11.0', z = vert.	-			\$0
Sta. 181 + 82 to Sta. 186 + 17 (435')				
Existing Rock-Lined Chnrl b = 58', d = 11.0', z = 1.5	-			\$0
Culvert Grand Avenue: (8) 10'W x 11'H (52')	536	CY	\$425.00	\$227,630
Sta. 186 + 17 to Sta. 202 + 35 (1618')				
Soft-Bottom Chnrl b = 70', d = 11.8', z = 2				
* Excavation	77,453	CY	\$3.50	\$271,086
Rock-revetted side slopes	13,340	CY	\$50.00	\$667,004
Side-slopes protection at bottom control structures	391	CY	\$90.00	\$35,181
Fence & Gates	3,236	LF	\$11.00	\$35,596
Right-of-Way	0.27	AC	\$15,000.00	\$4,012
1 Bottom control structure(s)	504	CY	\$90.00	\$45,360
Sta. 202 + 65 to Sta. 213 + 94 (1129')				
Soft-Bottom Chnrl b = 70', d = 11.8', z = 2				
* Excavation	58,728	CY	\$3.50	\$205,548
Rock-revetted side slopes	9,258	CY	\$50.00	\$462,896
Side-slopes protection at bottom control structures	391	CY	\$90.00	\$35,181
Fence & Gates	2,258	LF	\$11.00	\$24,838
Right-of-Way	0.19	AC	\$15,000.00	\$2,799
1 Bottom control structure(s)	504	CY	\$90.00	\$45,360
Culvert Palm Avenue: (8) 11.7'W x 11.8'H (54') Cholla Avenue: (8) 11.7'W x 11.8'H (58')	621 667	CY CY	\$425.00 \$425.00	\$263,925 \$283,475
Sta. 213 + 94 to Sta. 220 + 00 (606')				
Soft-Bottom Chnrl b = 30', d = 9.1', z = 2				
* Excavation	7,178	CY	\$3.50	\$25,124
Rock-revetted side slopes	3,644	CY	\$50.00	\$182,180
Fence & Gates	1,212	LF	\$11.00	\$13,332
Right-of-Way	0.09	AC	\$15,000.00	\$1,336
Culvert Road to Mobile Home Park: (5) 9.5'W x 9.1'H (62')	372	CY	\$425.00	\$158,100
Sta. 220 + 00 to Sta. 235 + 00 (1500')				
Soft-Bottom Chnrl b = 18', d = 9.6', z = 2				
* Excavation	15,468	CY	\$3.50	\$54,137
Rock-revetted side slopes	8,646	CY	\$50.00	\$432,306
Fence & Gates	3,000	LF	\$11.00	\$33,000
Right-of-Way	-	AC	\$60,000.00	\$0
Culvert Twenty-nine Palms Hwy. : (3) 12.4'W x 9.6'HRCB (84')	378	CY	\$425.00	\$160,650
Sta. 235 + 00 to Sta. 237 + 00 (200')				
Soft-Bottom Chnrl b = 16', d = 8.8', z = 2				
* Excavation	2,652	CY	\$3.50	\$9,284
Rock-revetted side slopes	1,073	CY	\$50.00	\$53,666
Fence & Gates	400	LF	\$11.00	\$4,400
Right-of-Way	-	AC	\$60,000.00	\$0
Sta. 237 + 00 to Sta. 238 + 33 (133')				
Soft-Bottom Chnrl b = 16', d = 8.8', z = 2				
* Excavation	1,764	CY	\$3.50	\$6,174
Rock-revetted side slopes	714	CY	\$50.00	\$35,688
Fence & Gates	266	LF	\$11.00	\$2,926
Right-of-Way	0.19	AC	\$60,000.00	\$11,212
Riprap for 25' U/S of concrete-lined channel	113	CY	\$70.00	\$7,881

* Unit price includes \$1.00/CY for disposal of excess material.

**YUCCA VALLEY MASTER PLAN OF DRAINAGE
COST ESTIMATE FOR NON-DETAINED ALTERNATIVE**

YUCCA WASH (Y01) Continued				
Facility Description	Quantity	Unit	Unit Cost	Estimated Cost
Sta. 237 + 00 to Sta. 238 + 33 (133') (CONTINUED)				
Culvert				
Acoma Trail: (3) 11'W x 8.8'H (60')	240	CY	\$425.00	\$102,000
Sta. 238+33 to Sta. 252 + 44 (1411')				
Concrete-Lined Chnrl b = 16', d = 7.2', z = 1.5				
* Excavation	7,576	CY	\$3.50	\$26,514
Concrete lining	1,462	CY	\$225.00	\$328,920
Fence & Gates	2,822	LF	\$11.00	\$31,042
Right-of-Way	2	AC	\$60,000.00	\$92,512
Culvert				
Apache Trail: (3) 9'W x 7.2'H (5.2')	177	CY	\$425.00	\$75,140
Bancock Trail: (3) 9'W x 7.2'H (5.2')	177	CY	\$425.00	\$75,140
Deer Trail: (3) 9'W x 7.2'H (5.2')	177	CY	\$425.00	\$75,140
Santa Fe Trail (Y01-03)				
Sta. 252 + 44 to Sta. 263 + 25				
Street Flow - Existing 36' Inverted Street	-			\$0
			Subtotal:	\$21,388,071
			30 % Contingency	\$6,416,421
			TOTAL COST:	\$27,804,492

HANFORD AVENUE DRAIN (Y01-01)				
Facility Description	Quantity	Unit	Unit Cost	Estimated Cost
Sta. 0 + 00 to Sta. 19 + 43 (1943')				
Soft-Bottom Chnrl b = 10', d = 6.7', z = 2				
* Excavation	14,075	CY	\$3.50	\$49,261
Rock-revetted side slopes	30,302	CY	\$50.00	\$1,515,096
Fence & Gates	3,886	LF	\$11.00	\$42,746
Right-of-Way	2.3	AC	\$15,000.00	\$34,658
Sta. 19 + 43 to Sta. 24 + 30 (487')				
Reinforced-Concrete Box: 7'W x 7'H				
RCB	577	CY	\$425.00	\$245,304
Excavation	4,545	CY	\$2.50	\$11,363
Backfill	3,391	CY	\$3.50	\$11,868
Street Pavement (R & R) and Traffic Control	-	LS	\$73,591.00	\$73,591
36' wide street- 33'W x 487'L impacted street area				
Sta. 24 + 30 to Sta. 29 + 55 (525')				
Rock-Lined Channel b = 10', d = 7', z = 1.5				
* Excavation	4,846	CY	\$3.50	\$16,961
Rock lining	2,056	CY	\$50.00	\$102,780
Fence & Gates	1,050	LF	\$11.00	\$11,550
Right-of-Way	0.55	AC	\$60,000.00	\$33,264
Along Hanford Avenue - LOCAL FACILITY:				
Street Flow - Existing 26' Inverted Street	-			
Rock-Lined Chnrl b = 6', d = 5.5', z = 1.5 (889')				
* Excavation	5,132	CY	\$3.50	\$17,962
Rock lining	2,551	CY	\$50.00	\$127,574
Fence & Gates	1,778	LF	\$11.00	\$19,558
Right-of-Way	0.77	AC	\$3,000.00	\$2,296
Along Balsa Avenue (LOCAL FACILITY):				
Street Flow - Existing 26' Inverted Street	-			\$0
			Subtotal:	\$2,315,833
			30% Contingency:	\$694,750
			TOTAL COST:	\$3,010,583

* Unit price includes \$1.00/CY for disposal of excess material.

**YUCCA VALLEY MASTER PLAN OF DRAINAGE
COST ESTIMATE FOR NON-DETAINED ALTERNATIVE**

RESTVIEW WASH (Y01-02)				
Facility Description	Quantity	Unit	Unit Cost	Estimated Cost
Sta. 0 + 00 to Sta. 6 + 05 (605')				
Rock-Lined Channel b = 10', d = 7.2', z = 1.5				
* Excavation	5,773	CY	\$3.50	\$20,206
Rock lining	2,417	CY	\$50.00	\$120,865
Fence & Gates	1,210	LF	\$11.00	\$13,310
Right-of-Way	1	AC	\$3,000.00	\$1,942
			Subtotal:	\$156,323
			30 % Contingency:	\$46,897
			TOTAL COST:	\$203,220

YUCCA WASH TRIBUTARIES				
Facility Description	Quantity	Unit	Unit Cost	Estimated Cost
Church Channel :				
Existing Soft-Bottom Chnrl b = 8', d = 4', z = 2 (1354')	-			\$0
Soft-Bottom Chnrl b = 8', d = 4.2', z = 2 (1683')				
* Excavation	4,294	CY	\$3.50	\$15,027
Fence & Gates	3,366	LF	\$11.00	\$37,026
Right-of-Way	0	AC	\$15,000.00	\$5,680
Deer Trail :				
Street Flow - Existing 26' Inverted Street	-			\$0
Elk Trail:				
Street Flow - Existing 26' Inverted Street	-			\$0
Fox Trail				
Street Flow - Existing 26' Inverted Street	-			\$0
Twenty-nine Palms Hwy. Drain:				
Street Flow - Existing 44' Inverted Street	-			\$0
Paxton Road Drain:				
Soft-Bottom Chnrl b = 8', d = 5.5', z = 2 (630')				
* Excavation	2,438	CY	\$3.50	\$8,534
Fence & Gates	1,260	LF	\$11.00	\$13,860
Right-of-Way	1	AC	\$15,000.00	\$9,762
54" Reinforced-Concrete Pipe (819')				
54" RCP	819	LF	\$158.00	\$129,402
Excavation	1,814	CY	\$2.50	\$4,536
Backfill	1,248	CY	\$3.50	\$4,369
48" Reinforced-Concrete Pipe (655')				
48" RCP	655	LF	\$130.00	\$85,150
Excavation	1,240	CY	\$2.50	\$3,100
Backfill	882	CY	\$3.50	\$3,088
Street Pavement (R&R) and Traffic Control 44' wide street- 6"W x 655'L trench	-	LS	\$25,545.00	\$25,545
Grand Avenue Drain:				
Soft-Bottom Chnrl b = 8', d = 4.9', z = 2 (1639')				
* Excavation	5,295	CY	\$3.50	\$18,531
Fence & Gates	3,278	LF	\$11.00	\$36,058
Right-of-Way - 800' length	1	AC	\$3,000.00	\$2,347
Right-of-Way - 839' length	1	AC	\$15,000.00	\$12,308
Prescott Avenue Drain:				
Soft-Bottom Chnrl b = 6', d = 5.4', z = 2 (581')				
* Excavation	1,952	CY	\$3.50	\$6,833
Fence & Gates	1,162	LF	\$11.00	\$12,782
Right-of-Way	1	AC	\$60,000.00	\$34,092
			Subtotal:	\$468,030
			30% Contingency:	\$140,409
			TOTAL COST:	\$608,439

* Unit price includes \$1.00/CY for disposal of excess material.

**YUCCA VALLEY MASTER PLAN OF DRAINAGE
COST ESTIMATE FOR NON-DETAINED ALTERNATIVE**

EST BURNT MTN. WASH (Y02)				
Facility Description	Quantity	Unit	Unit Cost	Estimated Cost
Sta. 0 + 00 to Sta. 21 + 71 (2171) Soft-Bottom Chnrl b = 30', d = 10.3', z = 2				
* Excavation	54,096	CY	\$3.50	\$189,338
Rock-revetted side slopes	14,348	CY	\$50.00	\$717,388
Fence & Gates	4,342	LF	\$11.00	\$47,762
Right-of-Way	0.16	AC	\$15,000.00	\$2,392
Sta. 21 + 71 to Sta. 34 + 33 (1262) Rock-Lined Chnrl b = 30', d = 10.5', z = 1.5				
* Excavation	17,572	CY	\$3.50	\$61,503
Rock lining	9,515	CY	\$50.00	\$475,762
Fence & Gates	2,524	LF	\$11.00	\$27,764
Right-of-Way	0.04	AC	\$15,000.00	\$652
Culvert				
Sunnyslope Drive : (4) 11.5'W x 10.5'H RCB (94')	536	CY	\$425.00	\$227,715
Road Crossing 250' D/S of 29 Palms : (4) 11.5'W 10.5'H RCB (46')	262	CY	\$425.00	\$111,435
Twenty-nine Palms Hwy. : (4) 11.5'W x 10.5'H RCB (114')	650	CY	\$425.00	\$276,165
Existing: (2) 14'W x 8'H RCB				
Sta. 34 + 33 to Sta. 40 + 00 (567) Rock-Lined Chnrl b = 30', d = 10.5', z = 1.5				
* Excavation	8,976	CY	\$3.50	\$31,418
Rock lining	4,275	CY	\$50.00	\$213,754
Fence & Gates	1,134	LF	\$11.00	\$12,474
Right-of-Way	0.16	AC	\$60,000.00	\$9,372
Sta. 40 + 00 to Sta. 44 + 00 (400) Rock-Lined Chnrl b = 30', d = 10.5', z = 1.5				
* Excavation	8,725	CY	\$3.50	\$30,538
Rock lining	3,016	CY	\$50.00	\$150,796
Fence & Gates	800	LF	\$11.00	\$8,800
Right-of-Way	0.93	AC	\$15,000.00	\$13,981
Sta. 44 + 00 to Sta. 50 + 50 (650) Rock-Lined Chnrl b = 30', d = 10.5', z = 1.5				
* Excavation	14,178	CY	\$3.50	\$49,624
Rock lining	4,901	CY	\$50.00	\$245,044
Fence & Gates	1,300	LF	\$11.00	\$14,300
Right-of-Way	1.2	AC	\$15,000.00	\$18,242
Sta. 50 + 50 to Sta. 56 + 15 (565) Rock-Lined Chnrl b = 24', d = 9.4', z = 1.5				
* Excavation	9,877	CY	\$3.50	\$34,571
Rock lining	2,718	CY	\$50.00	\$135,889
Fence & Gates	1,130	LF	\$11.00	\$12,430
Right-of-Way	0.42	AC	\$15,000.00	\$6,265
Culvert				
Airway Drive : (4) 9.5' W x 9.4'H RCB (56')	274	CY	\$425.00	\$116,620
Sta. 56 + 15 to Sta. 82 + 94 (2679) Rock-Lined Chnrl b = 24', d = 9.4', z = 1.5				
* Excavation	46,219	CY	\$3.50	\$161,768
Rock lining	17,233	CY	\$50.00	\$861,629
Fence & Gates	5,358	LF	\$11.00	\$58,938
Right-of-Way	5.7	AC	\$3,000.00	\$17,011
Corrected Purchase of Residences (4 houses)	4	EACH	\$80,000.00	\$320,000
Culvert				
Yucca Trail: (4) 9.5'W x 9.4'H (114')	559	CY	\$425.00	\$237,405
Joshua View Drive: (4) 9.5'W x 9.4'H (76')	372	CY	\$425.00	\$158,270
Valley Vista Avenue: (4) 9.5'W x 9.4'H (76')	372	CY	\$425.00	\$158,270
Sta. 82 + 94 to Sta. 132 + 25 (4931) Rock-Lined Chnrl b = 24', d = 9.4', z = 1.5				
* Excavation	85,072	CY	\$3.50	\$297,752
Rock lining	31,718	CY	\$50.00	\$1,585,924
Fence & Gates	9,862	LF	\$11.00	\$108,482

* Unit price includes \$1.00/CY for disposal of excess material.

**YUCCA VALLEY MASTER PLAN OF DRAINAGE
COST ESTIMATE FOR NON-DETAINED ALTERNATIVE**

EAST BURNT MTN. WASH (Y02) Continued				
Facility Description	Quantity	Unit	Unit Cost	Estimated Cost
Sta. 82 + 94 to Sta. 132 + 25 (4931') Continued				
Right-of-Way	10.4	AC	\$3,000.00	\$31,311
corrected Purchase of Residences (7 houses)	7	EACH	\$80,000.00	\$560,000
Culvert				
Elata Avenue: (4) 9.5'W x 9.4'H (64')	314	CY	\$425.00	\$133,280
Joshua Lane: (4) 9.5'W x 9.4'H (66')	323	CY	\$425.00	\$137,445
Onaga Trail: (4) 9.5'W x 9.4'H (54')	265	CY	\$425.00	\$112,455
Navajo Trail: (4) 9.5'W x 9.4'H (58')	284	CY	\$425.00	\$120,785
Joshua Lane: (4) 9.5'W x 9.4'H (66')	323	CY	\$425.00	\$137,445
Quail Trail: (4) 9.5'W x 9.4'H (52')	255	CY	\$425.00	\$108,290
Sta. 173 + 39 to Sta. 202 + 93 (2954')				
Soft-Bottom Chnnl b = 12', d = 8.2', z = 2				
* Excavation	28,936	CY	\$3.50	\$101,276
Rock-revetted side slopes	14,769	CY	\$50.00	\$738,469
Side-slopes protection at bottom control structures	543	CY	\$90.00	\$48,895
Fence & Gates	5,908	LF	\$11.00	\$64,988
Right-of-Way	-	AC	\$3,000.00	\$0
2 Bottom control structure(s)	173	CY	\$90.00	\$15,552
Culvert				
Warren Vista Avenue: (3) 9.5'W x 8.2'H (56')	202	CY	\$425.00	\$85,680
Joshua Lane: (3) 9.5'W x 8.2'H (56')	202	CY	\$425.00	\$85,680
Ivanhoe Drive: (3) 9.5'W x 8.2'H (52')	187	CY	\$425.00	\$79,560
Sta. 202 + 93 to Sta. 212 + 05 (912')				
Soft-Bottom Chnnl b = 12', d = 7.6', z = 2				
* Excavation	7,888	CY	\$3.50	\$27,607
Rock-revetted side slopes	4,350	CY	\$50.00	\$217,525
Fence & Gates	1,824	LF	\$11.00	\$20,064
Right-of-Way	-	AC	\$3,000.00	\$0
Culvert				
San Andreas Road: (3) 9.0'W x 7.6'H (52')	177	CY	\$425.00	\$75,140
East Bunt Mtn. Wash Tributary - LOCAL FACILITY				
Along Hilton Avenue:				
Rock-Lined Chnnl b = 6', d = 4.8', z = 1.5 (1211')				
* Excavation	5,978	CY	\$3.50	\$20,922
Rock lining	3,136	CY	\$50.00	\$156,802
Fence & Gates	2,442	LF	\$11.00	\$26,862
Right-of-Way	-	AC	\$3,000.00	\$0
Warren Vista Drain (Y02-01):				
Sta. 0 + 00 to Sta. 30 + 64 (3064')				
Rock-Lined Chnnl b = 8', d = 6.7', z = 1.5				
* Excavation	24,672	CY	\$3.50	\$86,351
Rock lining	10,948	CY	\$50.00	\$547,387
Fence & Gates	6,128	LF	\$11.00	\$67,408
Right-of-Way	3.0	AC	\$3,000.00	\$9,095
Subtotal:				\$11,023,716
30% Contingency:				\$3,307,115
TOTAL COST:				\$14,330,831

EAST BURNT MTN. WASH (Y03)				
Facility Description	Quantity	Unit	Unit Cost	Estimated Cost
Sta. 0 + 00 to Sta. 33 + 63 (3363')				
Reinforced-Concrete Box: 12'W x 6'H				
RCB	4,982	CY	\$425.00	\$2,117,444
Excavation	35,623	CY	\$2.50	\$89,057
Backfill	21,673	CY	\$3.50	\$75,854
Street Pavement (R & R) and Traffic Control	-	LS	\$635,233.00	\$635,233
36' wide street- 31' W x 3363' L impacted street area				

* Unit price includes \$1.00/CY for disposal of excess material.

**YUCCA VALLEY MASTER PLAN OF DRAINAGE
COST ESTIMATE FOR NON-DETAINED ALTERNATIVE**

EAST BURNT MTN. WASH (Y03) Continued				
Activity Description	Quantity	Unit	Unit Cost	Estimated Cost
Sta. 33 + 63 to Sta. 48 + 60 (1497)				
Rock-Lined Chnnl b = 16', d = 9.3', z = 1.5				
* Excavation	25,022	CY	\$3.50	\$87,579
Rock lining	9,579	CY	\$50.00	\$478,964
Fence & Gates	2,994	LF	\$11.00	\$32,934
Right-of-Way	2.5	AC	\$3,000.00	\$7,619
Culvert				
corrected Victor Vista: (3) 10'W x 9.3'H (52')	203	CY	\$425.00	\$86,190
corrected 5 Driveways, 12'W each: (3) 10'W x 9.3'H (60')	234	CY	\$425.00	\$99,450
Sta. 48 + 60 to Sta. 86 + 59 (3799')				
Rock-Lined Chnnl b = 16', d = 9.3', z = 1.5				
* Excavation	48,960	CY	\$3.50	\$171,360
Rock lining	24,402	CY	\$50.00	\$1,220,108
Fence & Gates	7,598	LF	\$11.00	\$83,578
Right-of-Way	7.3	AC	\$3,000.00	\$21,952
Sta. 86 + 59 to Sta. 95 + 44 (885')				
Soft-Bottom Chnnl b = 16', d = 8.1', z = 2				
* Excavation	8,575	CY	\$3.50	\$30,014
Rock-revetted side slopes	4,341	CY	\$50.00	\$217,060
Side-slopes protection at bottom control structures	268	CY	\$90.00	\$24,150
Fence & Gates	1,770	LF	\$11.00	\$19,470
Right-of-Way	-	AC	\$3,000.00	\$0
1 Bottom control structure(s)	115	CY	\$90.00	\$10,368
Culvert				
corrected Joshua Drive: (3) 10.7'W x 8.1'H (52')	203	CY	\$425.00	\$86,190
Sta. 95 + 44 to Sta. 110 + 00 (1456')				
Soft-Bottom Chnnl b = 12', d = 7.9', z = 2				
Excavation	11,369	CY	\$3.50	\$39,790
Rock-revetted side slopes	6,867	CY	\$50.00	\$343,371
Side-slopes protection at bottom control structures	785	CY	\$90.00	\$70,660
Fence & Gates	2,912	LF	\$11.00	\$32,032
Right-of-Way	-	AC	\$3,000.00	\$0
3 Bottom control structure(s)	259	CY	\$90.00	\$23,328
Culvert				
corrected Bonanza Drive: (3) 9.2'W x 7.9'H (52')	182	CY	\$425.00	\$77,350
corrected Carlyle Drive: (3) 9.2'W x 7.9'H (52')	182	CY	\$425.00	\$77,350
corrected Desert Gold Drive: (3) 9.2'W x 7.9'H (52')	182	CY	\$425.00	\$77,350
corrected El Dorado Drive: (3) 9.2'W x 7.9'H (52')	182	CY	\$425.00	\$77,350
Sta. 110 + 00 to Sta. 143 + 63 (3363')				
Soft-Bottom Chnnl b = 12', d = 7.6', z = 2				
Excavation	24,353	CY	\$3.50	\$85,236
Rock-revetted side slopes	15,565	CY	\$50.00	\$778,271
Side-slopes protection at bottom control structures	1,259	CY	\$90.00	\$113,294
Fence & Gates	6,726	LF	\$11.00	\$73,986
Right-of-Way	-	AC	\$3,000.00	\$0
5 Bottom control structure(s)	432	CY	\$90.00	\$38,880
Culvert				
corrected Joshua Lane: (3) 9'W x 7.6'H (72')	245	CY	\$425.00	\$104,040
corrected Juarez Drive: (3) 9'W x 7.6'H (56')	190	CY	\$425.00	\$80,920
corrected Lisbon Drive: (3) 9'W x 7.6'H (56')	190	CY	\$425.00	\$80,920
East Burnt Mtn. Wash Tributaries (Y03-01):				
Sta. 0 + 00 to Sta. 9 + 12 (912')				
Soft-Bottom Chnnl b = 8', d = 5.8', z = 2				
* Excavation	4,961	CY	\$3.50	\$17,364
Rock-revetted side slopes	3,082	CY	\$50.00	\$154,080
Fence & Gates	1,824	LF	\$11.00	\$20,064
Right-of-Way	0.97	AC	\$3,000.00	\$2,902
Soft-Bottom Chnnl b = 8', d = 4.2', z = 2 (1151') - LOCAL FACILITY				
* Excavation	4,079	CY	\$3.50	\$14,276
Rock-revetted side slopes	2,974	CY	\$50.00	\$148,703
Fence & Gates	2,302	LF	\$11.00	\$25,322

* Unit price includes \$1.00/CY for disposal of excess material.

**YUCCA VALLEY MASTER PLAN OF DRAINAGE
COST ESTIMATE FOR NON-DETAINED ALTERNATIVE**

EAST BURNT MTN. WASH (Y03) Continued				
Facility Description	Quantity	Unit	Unit Cost	Estimated Cost
Soft-Bottom Chnrl b = 8', d = 4.2', z = 2 (1151') - LOCAL FACILITY Continued				
Right-of-Way	1.1	AC	\$3,000.00	\$3,155
Street Flow - Existing 26' Inverted Street (along Navajo Trail) - LOCAL FACILITY	-			\$0
Subtotal:				\$8,154,568
30% Contingency:				\$2,446,370
TOTAL COST:				\$10,600,938

LONG CANYON CHANNEL (Y07)				
Facility Description	Quantity	Unit	Unit Cost	Estimated Cost
Sta. 0 + 00 to Sta. 4 + 50 (450')				
Existing Concrete-Lined Chnrl (2) b = 15.5', d = 11', z = vert.	-			\$0
Sta. 4 + 50 to Sta. 10 + 00 (550')				
Existing Concrete-Lined Chnrl b = 31', d = 11', z = vert.	-			\$0
Existing Culvert: Antelope Trail : (2) 13.6'W x 11'HRCB				
Sta. 10 + 00 to Sta. 16 + 60 (660')				
Existing Concrete-Lined Chnrl b = 28', d = 11', z = vert.	-			\$0
Existing Culvert: Twenty-nine Palms Hwy. - (3)10'W x 8'HRCB				
Sta. 16 + 60 to Sta. 23 + 90 (730')				
Rock-Lined Chnrl b = 60', d = 8.7', z = 1.5				
* Excavation	20,052	CY	\$3.50	\$70,181
Rock lining	7,411	CY	\$50.00	\$370,549
Fence & Gates	1,460	LF	\$11.00	\$16,060
Right-of-Way	1.5	AC	\$60,000.00	\$92,607
Sta. 23 + 90 to Sta. 38 + 04 (1414')				
Rock-Lined Chnrl b = 30', d = 8.2', z = 1.5				
* Excavation	22,287	CY	\$3.50	\$78,003
Rock lining	9,358	CY	\$50.00	\$467,920
Fence & Gates	2,828	LF	\$11.00	\$31,108
Right-of-Way	3.1	AC	\$15,000.00	\$46,062
Culvert				
Sage Avenue: (4) 10.5'W x 8.2'HRCB (140')	700	CY	\$425.00	\$297,500
Sta. 38 + 04 to Sta. 79 + 28 (4124')				
Rock-Lined Chnrl b = 30', d = 8.2', z = 1.5				
* Excavation	75,692	CY	\$3.50	\$264,921
Rock lining	27,294	CY	\$50.00	\$1,364,712
Fence & Gates	8,160	LF	\$11.00	\$89,760
Right-of-Way	7.0	AC	\$3,000.00	\$20,989
corrected Purchase of Residences (1 house)	1	EACH	\$80,000.00	\$80,000
Culvert				
Onaga Trail: (4) 10.5'W x 8.2'HRCB (54')	270	CY	\$425.00	\$114,750
Navajo Trail: (4) 10.5'W x 8.2'HRCB (52')	260	CY	\$425.00	\$110,500
Joshua Drive: (4) 10.5'W x 8.2'HRCB (54')	270	CY	\$425.00	\$114,750
Sta. 0 + 00 to Sta. 22 + 17 (Upstream of Long Canyon Basin)				
Rock-Lined Chnrl b = 30', d = 10.8', z = 1.5 (2217')				
* Excavation	33,580	CY	\$3.50	\$117,531
Rock lining	16,982	CY	\$50.00	\$849,110
Fence & Gates	4,434	LF	\$11.00	\$48,774
Right-of-Way	5.2	AC	\$3,000.00	\$15,635
Culvert				
Golden Bee Drive: (4) 11.5'W x 10.8'HRCB (52')	302	CY	\$425.00	\$128,180
Sage Avenue Drain (Y07-01):				
Sta. 0 + 00 to Sta. 3 + 55 (355')				
Soft-Bottom Chnrl b = 8', d = 5.8', z = 2				
* Excavation	824	CY	\$3.50	\$2,884
Fence & Gates	710	LF	\$11.00	\$7,810
Right-of-Way	0.37	AC	\$3,000.00	\$1,110
Street Flow - Existing 26' Inverted Street (along Sage Ave.) LOCAL FACILITY	-			\$0
Subtotal:				\$4,801,408
30% Contingency:				\$1,440,422
TOTAL COST:				\$6,241,830

* Unit price includes \$1.00/CY for disposal of excess material.

**YUCCA VALLEY MASTER PLAN OF DRAINAGE
COST ESTIMATE FOR NON-DETAINED ALTERNATIVE**

OSPITAL CHANNEL (Y09)				
Facility Description	Quantity	Unit	Unit Cost	Estimated Cost
Sta. 0 + 00 to Sta. 10 + 00 (1000')				
Rock-Lined Chnrl b = 30', d = 12.3', z = 1.5				
* Excavation	11,814	CY	\$3.50	\$41,349
Rock lining	8,261	CY	\$50.00	\$413,046
Fence & Gates	2,000	LF	\$11.00	\$22,000
Right-of-Way	2.5	AC	\$15,000.00	\$36,811
Sta. 10 + 00 to Sta. 22 + 08 (1208')				
Rock-Lined Chnrl b = 30', d = 12.3', z = 1.5				
* Excavation	14,271	CY	\$3.50	\$49,950
Rock lining	9,979	CY	\$50.00	\$498,960
Fence & Gates	2,416	LF	\$11.00	\$26,576
Right-of-Way	-	AC	\$15,000.00	\$0
Sta. 22 + 08 to Sta. 30 + 00 (792')				
Rock-Lined Chnrl b = 30', d = 10.8', z = 1.5				
* Excavation	0	CY	\$3.50	\$0
Rock lining	6,067	CY	\$50.00	\$303,336
Fence & Gates	1,584	LF	\$11.00	\$17,424
Right-of-Way	0.17	AC	\$15,000.00	\$2,564
Culvert				
corrected Road to Mobile Home Park : (4) 11.6'W x 10.8'HRCB (52')	322	CY	\$425.00	\$137,020
Sta. 30 + 00 to Sta. 36 + 89 (689')				
Rock-Lined Chnrl b = 30', d = 10.8, z = 1.5				
* Excavation	0	CY	\$3.50	\$0
Rock lining	5,278	CY	\$50.00	\$263,887
Fence & Gates	1,378	LF	\$11.00	\$15,158
Right-of-Way	1.5	AC	\$15,000.00	\$21,923
Sta. 36 + 89 to Sta. 64 + 55 (2766')				
Rock-Lined Chnrl b = 15', d = 9.7', z = 1.5				
* Excavation	37,961	CY	\$3.50	\$132,865
Rock lining	15,359	CY	\$50.00	\$767,931
Fence & Gates	5,532	LF	\$11.00	\$60,852
Right-of-Way	5.3	AC	\$3,000.00	\$16,021
Culvert				
corrected Onaga Trail : (3) 9.8'W x 9.7'HRCB (54')	211	CY	\$425.00	\$89,505
Sta. 64 + 55 to Sta. 77 + 97 (1342')				
Rock-Lined Chnrl b = 15', d = 7.8', z = 1.5				
* Excavation	16,384	CY	\$3.50	\$57,343
Rock lining	6,430	CY	\$50.00	\$321,508
Fence & Gates	2,684	LF	\$11.00	\$29,524
Right-of-Way	2.1	AC	\$3,000.00	\$6,322
corrected Purchase of Residences (7 houses)	7	EACH	\$80,000.00	\$560,000
Culvert				
corrected Joshua Drive : (3) 8.9'W x 7.8'HRCB (76')	258	CY	\$425.00	\$109,820
corrected Anaconda Drive : (3) 8.9'W x 7.8'HRCB (52')	177	CY	\$425.00	\$75,140
corrected Bonanza Drive : (3) 8.9'W x 7.8'HRCB (52')	177	CY	\$425.00	\$75,140
corrected Carlyle Drive : (3) 8.9'W x 7.8'HRCB (52')	177	CY	\$425.00	\$75,140
Sta. 77 + 97 to Sta. 84 + 00 (603')				
Rock-Lined Chnrl b = 15', d = 7.8', z = 1.5				
* Excavation	7,362	CY	\$3.50	\$25,766
Rock lining	2,889	CY	\$50.00	\$144,463
Fence & Gates	1,206	LF	\$11.00	\$13,266
Right-of-Way	-	AC	\$3,000.00	\$0
Culvert				
corrected Desert Gold Drive : (3) 8.9'W x 7.8'HRCB (52')	177	CY	\$425.00	\$75,140

* Unit price includes \$1.00/CY for disposal of excess material.

**YUCCA VALLEY MASTER PLAN OF DRAINAGE
COST ESTIMATE FOR NON-DETAINED ALTERNATIVE**

HOSPITAL CHANNEL (Y09) CONTINUED				
Facility Description	Quantity	Unit	Unit Cost	Estimated Cost
Sta. 84 + 00 to Sta. 88 + 72 (Y09-03)				
Rock-Lined Chnnl b = 15', d = 5.7', z = 1.5 (472')				
* Excavation	4,071	CY	\$3.50	\$14,249
Rock lining	1,864	CY	\$50.00	\$93,224
Fence & Gates	944	LF	\$11.00	\$10,384
Right-of-Way	-	AC	\$3,000.00	\$0
			Subtotal:	\$4,603,607
			30% Contingency:	\$1,381,082
			TOTAL COST:	\$5,984,690

HIGH SCHOOL CHANNEL (Y09-01)				
Facility Description	Quantity	Unit	Unit Cost	Estimated Cost
Sta. 0 + 00 to Sta. 17 + 14 (1714')				
Rock-Lined Chnnl b = 12', d = 5.7', z = 1.5				
* Excavation	0	CY	\$3.50	\$0
Rock lining	6,199	CY	\$50.00	\$309,954
Fence & Gates	3,428	LF	\$11.00	\$37,708
Right-of-Way	-	AC	\$15,000.00	\$0
Extension of High School Channel - LOCAL FACILITIES:				
Soft-Bottom Chnnl b = 8', d = 5.1', z = 2 (1315')				
* Excavation	3,254	CY	\$3.50	\$11,389
Fence & Gates	2,630	LF	\$11.00	\$28,930
Right-of-Way	1.2	AC	\$3,000.00	\$3,469
Soft-Bottom Chnnl b = 8', d = 4.8', z = 2 (557')				
* Excavation	1,267	CY	\$3.50	\$4,436
Fence & Gates	1,114	LF	\$11.00	\$12,254
Right-of-Way	0.48	AC	\$3,000.00	\$1,435
			Subtotal:	\$409,584
			30% Contingency:	\$122,875
			TOTAL COST:	\$532,459

CHOLLA AVENUE DRAIN				
Facility Description	Quantity	Unit	Unit Cost	Estimated Cost
Along Joshua Drive - LOCAL FACILITY:				
Soft-Bottom Chnnl b = 16', d = 5.4', z = 2 (419')				
* Excavation	1,680	CY	\$3.50	\$5,881
Fence & Gates	838	LF	\$11.00	\$9,218
Right-of-Way	0.65	AC	\$3,000.00	\$1,951
Along Cholla Avenue - LOCAL FACILITY:				
Street Flow - Existing 36' Inverted Street				
				\$0
Along El Dorado Drive (Y09-02):				
Sta. 0 + 00 to Sta. 3 + 02 (302')				
Reinforced Concrete Box: 6'W x 6'H				
RCB	313	CY	\$425.00	\$133,104
Excavation	2,461	CY	\$2.50	\$6,152
Backfill	1,745.00	CY	\$3.50	\$6,107
Street Pavement (R & R) and Traffic Control 36' wide street- 31'W x 302L impacted street area	-	LS	\$39,931.00	\$39,931
Along Cholla Avenue (Y09-02):				
Sta. 3 + 02 to Sta. 9 + 70 (668')				
Rock-Lined Chnnl b = 6', d = 6.7', z = 1.5				
* Excavation	4,066	CY	\$3.50	\$14,231
Rock lining	2,238	CY	\$50.00	\$111,917
Fence & Gates	1,336	LF	\$11.00	\$14,696
Right-of-Way	0.63	AC	\$3,000.00	\$1,891
			Subtotal:	\$345,077
			30% Contingency:	\$103,523
			TOTAL COST:	\$448,600

* Unit price includes \$1.00/CY for disposal of excess material.

**YUCCA VALLEY MASTER PLAN OF DRAINAGE
COST ESTIMATE FOR NON-DETAINED ALTERNATIVE**

COMA CHANNEL (Y10)				
Facility Description	Quantity	Unit	Unit Cost	Estimated Cost
Sta. 0 + 00 to Sta. 50 + 84 (5084')				
Rock-Lined Chnnl b = 20', d = 9.7', z = 1.5				
* Excavation	92,473	CY	\$3.50	\$323,654
Rock lining	31,054	CY	\$50.00	\$1,552,706
Fence & Gates	10,168	LF	\$11.00	\$111,848
Right-of-Way	10.4	AC	\$3,000.00	\$31,197
Culvert				
corrected Church Street: (3) 11.5'W x 9.7'HRCB (75')	323	CY	\$425.00	\$137,063
corrected Joshua Drive: (3) 11.5'W x 9.7'HRCB (109')	469	CY	\$425.00	\$199,198
corrected Acoma Trail: (3) 11.5'W x 9.7'HRCB (109')	469	CY	\$425.00	\$199,198
Sta. 62 + 73 to Sta. 74 + 50 (1177')				
Soft-Bottom Chnnl b = 20', d = 7.2', z = 2				
* Excavation	0	CY	\$3.50	\$0
Fence & Gates	2,354	LF	\$11.00	\$25,894
Right-of-Way	-	AC	\$3,000.00	\$0
Culvert				
corrected Desert Gold Drive: (3) 11.5'W x 7.2'HRCB (74')	289	CY	\$425.00	\$122,655
Subtotal:				\$2,703,412
30% Contingency:				\$811,023
TOTAL COST:				\$3,514,435

DEER TRAIL CHANNEL (Y11)				
Facility Description	Quantity	Unit	Unit Cost	Estimated Cost
Sta. 0 + 00 to Sta. 3 + 00 (300')				
Soft-Bottom Chnnl b = 12', d = 8.1', z = 2				
* Excavation	2,991	CY	\$3.50	\$10,470
Rock-revetted side slopes	1,506	CY	\$50.00	\$75,281
Fence & Gates	600	LF	\$11.00	\$6,600
Right-of-Way	0.02	AC	\$3,000.00	\$50
Sta. 3 + 00 to Sta. 15 + 65 (1265')				
Soft-Bottom Chnnl b = 12', d = 7.3', z = 2				
* Excavation	10,709	CY	\$3.50	\$37,483
Rock-revetted side slopes	5,846	CY	\$50.00	\$292,291
Fence & Gates	2,530	LF	\$11.00	\$27,830
Right-of-Way	-	AC	\$3,000.00	\$0
Culvert				
corrected Desert Gold Drive: (3) 8.8'W x 7.3'HRCB (52')	172	CY	\$425.00	\$72,930
Deer Trail Channel Tributary - LOCAL FACILITY:				
Existing Soft-Bottom Channel b = 12', d = 4', z = 2	-			\$0
Subtotal:				\$522,934
30% Contingency:				\$156,880
TOTAL COST:				\$679,815

* Unit price includes \$1.00/CY for disposal of excess material.

**YUCCA VALLEY MASTER PLAN OF DRAINAGE
COST ESTIMATE FOR NON-DETAINED ALTERNATIVE**

WATER CANYON CHANNEL (Y12)				
Facility Description	Quantity	Unit	Unit Cost	Estimated Cost
Sta. 0 + 00 to Sta. 22 + 32 (2232')				
Rock-Lined Chnrl b = 54', d = 10.9', z = 1.5				
* Excavation	82,561	CY	\$3.50	\$288,962
Rock lining	23,139	CY	\$50.00	\$1,156,926
Fence & Gates	4,464	LF	\$11.00	\$49,104
Right-of-Way	6.5	AC	\$15,000.00	\$97,381
Culvert				
Road to Mobile Home Park: (5) 14'W x 10.9'HRCB (52')	421	CY	\$425.00	\$179,010
Scarvin Road: (5) 14'W x 10.9'HRCB (52')	421	CY	\$425.00	\$179,010
Acoma Trail: (5) 14'W x 10.9'HRCB (52')	421	CY	\$425.00	\$179,010
Sta. 22 + 32 to Sta. 58 + 00 (3568')				
Rock-Lined Chnrl b = 54', d = 9.9', z = 1.5				
* Excavation	119,290	CY	\$3.50	\$417,515
Rock lining	35,559	CY	\$50.00	\$1,777,953
Fence & Gates	7,136	LF	\$11.00	\$78,496
Right-of-Way	10.1	AC	\$3,000.00	\$30,397
Culvert				
Pawnee Avenue: (5) 13.5'W x 9.9'HRCB (52')	395	CY	\$425.00	\$167,960
Apache Avenue: (5) 13.5'W x 9.9'HRCB (52')	395	CY	\$425.00	\$167,960
Sioux Avenue: (5) 13.5'W x 9.9'HRCB (66')	502	CY	\$425.00	\$213,180
Cherokee Trail: (5) 13.5'W x 9.9'HRCB (66')	502	CY	\$425.00	\$213,180
Pioneertown Road: (5) 13.5'W x 9.9'HRCB (74')	562	CY	\$425.00	\$239,020
Sta. 58 + 00 to Sta. 82 + 52 (2452')				
Soft-Bottom Chnrl b = 100', d = 7.0', z = 2				
* Excavation	116,243	CY	\$3.50	\$406,850
Rock-revetted side slopes	14,263	CY	\$50.00	\$713,157
Side-slopes protection at bottom control structures	696	CY	\$90.00	\$62,610
Fence & Gates	4,904	LF	\$11.00	\$53,944
Right-of-Way	9.5	AC	\$3,000.00	\$28,370
3 Bottom control structure(s)	2,160	CY	\$90.00	\$194,400
Water Canyon Tributary - Sioux Avenue Drain (Y12-01):				
Sta. 0 + 00 to Sta. 15 + 63 (1563')				
Street Flow - Existing 26' Inverted Street				\$0
			Subtotal:	\$6,894,396
			30% Contingency:	\$2,068,319
			TOTAL COST:	\$8,962,715

* Unit price includes \$1.00/CY for disposal of excess material.

**YUCCA VALLEY MASTER PLAN OF DRAINAGE
COST ESTIMATE FOR NON-DETAINED ALTERNATIVE**

TICKAPOO DRAIN (K01)				
Facility Description	Quantity	Unit	Unit Cost	Estimated Cost
Sta. 0 + 00 to Sta. 6 + 78 (678')				
Soft-Bottom Chnrl b = 20', d = 7.3', z = 2				
* Excavation	6,343	CY	\$3.50	\$22,199
Fence & Gates	1,356	LF	\$11.00	\$14,916
Right-of-Way	1.2	AC	\$3,000.00	\$3,698
Sta. 6 + 78 to Sta. 36 + 21 (2943')				
Reinforced-Concrete Box: 8'W x 6'H				
RCB	3,488	CY	\$425.00	\$1,482,400
Excavation	26,378	CY	\$2.50	\$65,945
Backfill	19,838	CY	\$3.50	\$69,433
Street Pavement (R & R) and Traffic Control 36' wide street- 33'W x 2943' L impacted street area	-	LS	\$444,720.00	\$444,720
Subtotal:				\$2,103,311
30% Contingency:				\$630,993
TOTAL COST:				\$2,734,305

LA HONDA DRAIN (K01-01)				
Facility Description	Quantity	Unit	Unit Cost	Estimated Cost
Sta. 0 + 00 to Sta. 10 + 23 (1023')				
Soft-Bottom Chnrl b = 6', d = 9', z = 2				
* Excavation	8,184	CY	\$3.50	\$28,644
Fence & Gates	2,046	LF	\$11.00	\$22,506
Right-of-Way	1.3	AC	\$60,000.00	\$80,318
Sta. 10 + 23 to Sta. 12 + 00 (177')				
Soft-Bottom Chnrl b = 6', d = 5.0', z = 2				
* Excavation	524	CY	\$3.50	\$1,836
Fence & Gates	354	LF	\$11.00	\$3,894
Right-of-Way	0.17	AC	\$60,000.00	\$9,996
Sta. 12 + 00 to Sta. 13 + 98 (198')				
54" Reinforced Concrete Pipe				
54" RCP	198	LF	\$158.00	\$31,284
Excavation	439	CY	\$2.50	\$1,097
Backfill	302	CY	\$3.50	\$1,056
Street Pavement (R & R) and Traffic Control 36' wide street- 6.5' W x 198' L trench	-	LS	\$9,385.00	\$9,385
Subtotal:				\$190,016
30% Contingency:				\$57,005
TOTAL COST:				\$247,020

* Unit price includes \$1.00/CY for disposal of excess material

**YUCCA VALLEY MASTER PLAN OF DRAINAGE
COST ESTIMATE FOR NON-DETAINED ALTERNATIVE**

NCA TRAIL WASH (K01-03)				
Facility Description	Quantity	Unit	Unit Cost	Estimated Cost
Sta. 0 + 00 to Sta. 13 + 95 (1395')				
54" Reinforced Concrete Pipe				
54" RCP	1,395	LF	\$158.00	\$220,410
Excavation	3,090	CY	\$2.50	\$7,726
Backfill	2,126	CY	\$3.50	\$7,442
Street Pavement (R & R) and Traffic Control	-	LS	\$66,123.00	\$66,123
44' wide street- 6.5'W x 1395'L trench				
Along Santa Fe Trail - LOCAL FACILITY:				
Street Flow - Existing 36' Inverted Street (698')	-			\$0
Along Jemez Trail - LOCAL FACILITY:				
Street Flow - Existing 26' Inverted Street (1413')	-			\$0
Rock-Lined Chnrl b = 4', d = 5.4', z = 1.5 (1012') - LOCAL FACILITY				
* Excavation	4,488	CY	\$3.50	\$15,709
Rock lining	2,639	CY	\$50.00	\$131,953
Fence & Gates	2,024	LF	\$11.00	\$22,264
Right-of-Way	0.94	AC	\$15,000.00	\$14,148
			Subtotal:	\$485,777
			30% Contingency:	\$145,733
			TOTAL COST:	\$631,510

PINON CREEK (P01)				
Facility Description	Quantity	Unit	Unit Cost	Estimated Cost
Sta. 44 + 03 to Sta. 50 + 00 (597')				
Soft-Bottom Chnrl b = 40', d = 5.7', z = 2				
* Excavation	8,406	CY	\$3.50	\$29,422
Rock-revetted side slopes	2,878	CY	\$50.00	\$143,876
Fence & Gates	1,194	LF	\$11.00	\$13,134
Right-of-Way	-	AC	\$3,000.00	\$0
Sta. 50 + 00 to Sta. 76 + 45 (2645')				
Soft-Bottom Chnrl b = 30', d = 5.8', z = 2				
* Excavation	8,119	CY	\$3.50	\$28,417
Rock-revetted side slopes	11,566	CY	\$50.00	\$578,297
Fence & Gates	5,290	LF	\$11.00	\$58,190
Right-of-Way	-	AC	\$3,000.00	\$0
Culvert				
corrected Camino del Cielo: (4) 10.4'W x 5.8'H (52')	234	CY	\$425.00	\$99,450
corrected La Vina Trail: (4) 10.4'W x 5.8'H (52')	234	CY	\$425.00	\$99,450
corrected Fairway Drive: (4) 10.4'W x 5.8'H (52')	234	CY	\$425.00	\$99,450
Sta. 76 + 45 to Sta. 92 + 50 (1605')				
Soft-Bottom Chnrl b = 30', d = 5.8', z = 2				
* Excavation	4,927	CY	\$3.50	\$17,244
Rock-revetted side slopes	7,018	CY	\$50.00	\$350,914
Fence & Gates	3,210	LF	\$11.00	\$35,310
Right-of-Way	3.1	AC	\$3,000.00	\$9,197
Pinon Creek Tributary - LOCAL FACILITY:				
Existing Rock-Lined Channel b = 10', d = 8', z = 1.5	-			\$0
			Subtotal:	\$1,562,350
			30% Contingency:	\$468,705
			TOTAL COST:	\$2,031,055

* Unit price includes \$1.00/CY for disposal of excess material.

**YUCCA VALLEY MASTER PLAN OF DRAINAGE
COST ESTIMATE FOR NON-DETAINED ALTERNATIVE**

YUCCA VALLEY WASH (C01)					
Facility Description	Quantity	Unit	Unit Cost	Estimated Cost	
Sta. 6 + 15 to Sta. 22 + 63 (1648')					
Soft-Bottom Chnrl b = 80', d = 10.3', z = 2					
* Excavation	64,710	CY	\$3.50	\$226,486	
Rock-revetted side slopes	12,529	CY	\$50.00	\$626,457	
Fence & Gates	3,296	LF	\$11.00	\$36,256	
Right-of-Way	6.1	AC	\$3,000.00	\$18,296	
Culvert					
corrected Yucca Mesa Road: (7) 14.4"W x 10.3'HRCB (78')	866	CY	\$425.00	\$367,965	
corrected Marvin Road: (7) 14.4"W x 10.3'HRCB (60')	666	CY	\$425.00	\$283,050	
corrected Twenty-nine Palms Hwy.: (7) 14.4"W x 10.3'HRCB (140')	1,554	CY	\$425.00	\$660,450	
				Subtotal:	\$2,218,960
				30% Contingency:	\$665,688
				TOTAL COST:	\$2,884,648

SIERRA VISTA WASH (V01)					
Facility Description	Quantity	Unit	Unit Cost	Estimated Cost	
Sta. 114 + 96 to Sta. 122 + 11 (Chipmunk Wash - V01-01)					
Soft-Bottom Chnrl b = 20', d = 6.4', z = 2 (715')					
* Excavation	3,102	CY	\$3.50	\$10,855	
Rock-revetted side slopes	2,984	CY	\$50.00	\$149,220	
Fence & Gates	1,430	LF	\$11.00	\$15,730	
Right-of-Way	1.4	AC	\$3,000.00	\$4,215	
Culvert					
corrected Sierra Vista Drive: (3) 10.9"W x 6.4'HRCB (76')	281	CY	\$425.00	\$119,510	
Sta. 122 + 11 to Sta. 124 + 67 (256')					
Soft-Bottom Chnrl b = 8', d = 6.3', z = 2					
* Excavation	700	CY	\$3.50	\$2,448	
Fence & Gates	512	LF	\$11.00	\$5,632	
Right-of-Way	0.31	AC	\$3,000.00	\$938	
				Subtotal:	\$308,549
				30% Contingency:	\$92,565
				TOTAL COST:	\$401,114

HILLCREST WASH (V01-03)					
Facility Description	Quantity	Unit	Unit Cost	Estimated Cost	
Sta. 0 + 00 to Sta. 2 + 87 (287')					
Soft-Bottom Chnrl b = 8', d = 5.5', z = 2					
* Excavation	1,079	CY	\$3.50	\$3,776	
Fence & Gates	574	LF	\$11.00	\$6,314	
Right-of-Way	0.33	AC	\$3,000.00	\$988	
				Subtotal:	\$11,078
				30% Contingency:	\$3,324
				TOTAL COST:	\$14,402

* Unit price includes \$1.00/CY for disposal of excess material.

**YUCCA VALLEY MASTER PLAN OF DRAINAGE
COST ESTIMATE FOR NON-DETAINED ALTERNATIVE**

Facility Description	Quantity	Unit	Unit Cost	Estimated Cost
WS CHANNEL (Y04)				
Sta. 0 + 00 to Sta. 20 + 65 (2065')				
Existing Concrete-Lined Chnlns (2) b = 10', d = 7', z = vert.	-			\$0
Sta. 0 + 00 to Sta. 13 + 94 (Upstream of OWS Basin)				
Existing Rock-Lined Chnln b = 24', d = 8', z = 1.5 (1394')	-			\$0
Culvert				
corrected Paxton Road: (4) 9'W x 8'HRCB (52')	234	CY	\$425.00	\$99,450
Sta. 13 + 94 to Sta. 31 + 56 (Upstream of OWS Basin)				
Rock-Lined Chnln b = 12', d = 6.7', z = 1.5 (1762')				
* Excavation	13,486	CY	\$3.50	\$47,201
Rock lining	7,079	CY	\$50.00	\$353,939
Fence & Gates	3,524	LF	\$11.00	\$38,749
Right-of-Way	2.9	AC	\$3,000.00	\$8,749
Culvert				
corrected OWS Road: (3) 7.3'W x 6.7'HRCB (120')	348	CY	\$425.00	\$147,900
corrected Buena Suerte Road: (3) 7.3'W x 6.7'HRCB (52')	151	CY	\$425.00	\$64,090
Sta. 31 + 56 to Sta. 49 + 12 (Upstream of OWS Basin - Y04-02)				
Rock-Lined Chnln b = 12', d = 6.4', z = 1.5 (1756')				
* Excavation	12,484	CY	\$3.50	\$43,693
Rock lining	6,844	CY	\$50.00	\$342,181
Fence & Gates	3,512	LF	\$11.00	\$38,632
Right-of-Way	2.9	AC	\$3,000.00	\$8,611
Sta. 49 + 12 to Sta. 60 + 87 (Y04-02)				
Soft-Bottom Chnln b = 8', d = 5.4', z = 2 (1175')				
* Excavation	3,008	CY	\$3.50	\$10,528
Rock-revetted side slopes	4,057	CY	\$50.00	\$202,854
Fence & Gates	2,350	LF	\$11.00	\$25,850
Right-of-Way	-	AC	\$3,000.00	\$0
Soft-Bottom Chnln b = 8', d = 4.9', z = 2 (1323') - LOCAL FACILITY				
* Excavation	5,724	CY	\$3.50	\$20,035
Rock-revetted side slopes	5,055	CY	\$50.00	\$252,734
Fence & Gates	2,646	LF	\$11.00	\$29,106
Right-of-Way	-	AC	\$3,000.00	\$0
Fareello Wash (Y04-01):				
Sta. 0 + 00 to Sta. 2 + 83 (283')				
Soft-Bottom Chnln b = 8', d = 4.9', z = 2				
Excavation	898	CY	\$3.50	\$3,143
Rock-revetted side slopes	1,081	CY	\$50.00	\$54,062
Fence & Gates	566	LF	\$11.00	\$6,226
Right-of-Way	0.31	AC	\$3,000.00	\$928
Sta. 2 + 83 to Sta. 11 + 86 (903')				
Soft-Bottom Chnln b = 8', d = 4.9', z = 2				
* Excavation	3,907	CY	\$3.50	\$13,674
Rock-revetted side slopes	3,450	CY	\$50.00	\$172,501
Fence & Gates	1,806	LF	\$11.00	\$19,866
Right-of-Way	-	AC	\$3,000.00	\$0
Soft-Bottom Chnln b = 8', d = 4.9', z = 2 (1137') - LOCAL FACILITY				
* Excavation	4,528	CY	\$3.50	\$15,847
Rock-revetted side slopes	4,175	CY	\$50.00	\$208,728
Fence & Gates	2,274	LF	\$11.00	\$25,014
Right-of-Way	-	AC	\$3,000.00	\$0
Soft-Bottom Chnln b = 8', d = 4.6', z = 2 (1113') - LOCAL FACILITY				
* Excavation	4,432	CY	\$3.50	\$15,513
Rock-revetted side slopes	4,086	CY	\$50.00	\$204,322
Fence & Gates	2,226	LF	\$11.00	\$24,486
Right-of-Way	1.1	AC	\$3,000.00	\$3,173
Subtotal:				\$2,501,799
30% Contingency:				\$750,540
TOTAL COST:				\$3,252,339

* Unit price includes \$1.00/CY for disposal of excess material.

**YUCCA VALLEY MASTER PLAN OF DRAINAGE
COST ESTIMATE FOR NON-DETAINED ALTERNATIVE**

BUENA VISTA WASH (Y05)					
Facility Description	Quantity	Unit	Unit Cost	Estimated Cost	
Sta. 0 + 00 to Sta. 4 + 00 (400')					
Soft-Bottom Chnnl b = 30', d = 10', z = 2					
* Excavation	10,785	CY	\$3.50	\$37,748	
Rock-revetted side slopes	2,906	CY	\$50.00	\$145,314	
Fence & Gates	800	LF	\$11.00	\$8,800	
Right-of-Way	0.9	AC	\$15,000.00	\$13,774	
Sta. 4 + 00 to Sta. 11 + 02 (702')					
Soft-Bottom Chnnl b = 30', d = 10', z = 2					
* Excavation	18,928	CY	\$3.50	\$66,248	
Rock-revetted side slopes	5,101	CY	\$50.00	\$255,025	
Fence & Gates	1,404	LF	\$11.00	\$15,444	
Right-of-Way	1.6	AC	\$3,000.00	\$4,835	
Sta. 11 + 02 to Sta. 40 + 17 (2915')					
Soft-Bottom Chnnl b = 20', d = 7.6', z = 2					
* Excavation	28,882	CY	\$3.50	\$101,088	
Fence & Gates	5,830	LF	\$11.00	\$64,130	
Right-of-Way	6.0	AC	\$3,000.00	\$18,148	
Culvert					
corrected Sage Avenue: (3) 11.7'W x 7.6'HRCB (52')	208	CY	\$425.00	\$88,400	
corrected Grand Avenue: (3) 11.7'W x 7.6'HRCB (52')	208	CY	\$425.00	\$88,400	
Sta. 40 + 17 to Sta. 51 + 61 (1144')					
Soft-Bottom Chnnl b = 10', d = 6.4', z = 2					
* Excavation	6,183	CY	\$3.50	\$21,639	
Fence & Gates	2,288	LF	\$11.00	\$25,168	
Right-of-Way	1.3	AC	\$3,000.00	\$3,987	
Extensions of Buena Vista Wash (Y05-01):					
Street Flow - Existing 36' Inverted Street	-			\$0	
Soft-Bottom Channel b = 10, d = 4.6', z = 2 (792')					
* Excavation	2,591	CY	\$3.50	\$9,068	
Fence & Gates	1,584	LF	\$11.00	\$17,424	
Right-of-Way	0.79	AC	\$3,000.00	\$2,367	
Sage Channel (Y06):					
Sta. 0 + 00 to Sta. 4 + 09 (409')					
Rock-Lined Chnnl b = 30', d = 5.7', z = 1.5					
* Excavation	5,872	CY	\$3.50	\$20,552	
Rock lining	2,297	CY	\$50.00	\$114,865	
Fence & Gates	818	LF	\$11.00	\$8,998	
Right-of-Way	0.72	AC	\$3,000.00	\$2,172	
Sta. 4 + 09 to Sta. 7 + 44 (335')					
Street Flow - Existing 36' Inverted Street					
Sta. 7 + 44 to Sta. 17 + 25 (981')					
Rock-Lined Chnnl b = 30', d = 5.5', z = 1.5					
* Excavation	13,625	CY	\$3.50	\$47,686	
Rock lining	5,432	CY	\$50.00	\$271,576	
Fence & Gates	1,962	LF	\$11.00	\$21,582	
Right-of-Way	1.7	AC	\$3,000.00	\$5,168	
				Subtotal:	\$1,479,607
				30% Contingency:	\$443,882
				TOTAL COST:	\$1,923,489

* Unit price includes \$1.00/CY for disposal of excess material.

TABLE 8

Cost Estimate for Detained Alternative

Table 8

**YUCCA VALLEY MASTER PLAN OF DRAINAGE
COST ESTIMATE FOR DETAINED ALTERNATIVE**

YUCCA WASH (Y01)				
Facility Description	Quantity	Unit	Unit Cost	Estimated Cost
Sta. 1 + 50 to Sta. 55 + 50 (5400')				
Soft-Bottom Chnrl b = 60', d = 12.9', z = 2				
* Excavation	216,964	CY	\$3.50	\$759,374
Rock-revetted side slopes	47,319	CY	\$50.00	\$2,365,959
Side-slopes protection at bottom control structures	1,709	CY	\$90.00	\$153,841
Fence & Gates	10,800	LF	\$11.00	\$118,800
Right-of-Way	-	AC	\$3,000.00	\$0
4 Bottom control structure(s)	1,728	CY	\$90.00	\$155,520
Culvert				
Yucca Mesa Road: (6) 14.5"W x 12.9"H (76')	783	CY	\$425.00	\$332,690
Indio Avenue: (6) 14.5"W x 12.9"H (54')	556	CY	\$425.00	\$236,385
Sta. 55 + 50 to Sta. 88 + 00 (3250')				
Soft Bottom Chnrl b = 60', d = 14.5', z = 2				
* Excavation	154,375	CY	\$3.50	\$540,313
Rock-revetted side slopes	31,297	CY	\$50.00	\$1,564,875
Side-slopes protection at bottom control structures	480	CY	\$90.00	\$43,231
Fence & Gates	6,500	LF	\$11.00	\$71,500
Right-of-Way	12	AC	\$3,000.00	\$35,365
1 Bottom control structure(s)	432	CY	\$90.00	\$38,880
Culvert				
Avalon Avenue: (6) 15"W x 14.5"H (76')	828	CY	\$425.00	\$352,070
Paxton Road: (6) 11.5"W x 14.5"H (76')	828	CY	\$425.00	\$352,070
Sta. 88 + 00 to Sta. 101 + 99 (1399')				
Soft Bottom Chnrl b = 60', d = 14.5', z = 2				
* Excavation	66,453	CY	\$3.50	\$232,584
Rock-revetted side slopes	13,168	CY	\$50.00	\$658,410
Side-slopes protection at bottom control structures	961	CY	\$90.00	\$86,461
Fence & Gates	2,798	LF	\$11.00	\$30,778
Right-of-Way	5	AC	\$15,000.00	\$76,116
2 Bottom control structure(s)	864	CY	\$90.00	\$77,760
Sta. 101 + 99 to Sta. 118 + 37 (1638')				
Soft Bottom Chnrl b = 60', d = 14.5', z = 2				
* Excavation	78,897	CY	\$3.50	\$276,140
Rock-revetted side slopes	15,678	CY	\$50.00	\$783,891
Side-slopes protection at bottom control structures	480	CY	\$90.00	\$43,231
Fence & Gates	3,276	LF	\$11.00	\$36,036
Right-of-Way	1	AC	\$15,000.00	\$12,973
1 Bottom control structure(s)	432	CY	\$90.00	\$38,880
Sta. 118 + 37 to Sta. 161 + 70 (4333')				
Soft-Bottom Chnrl b = 60', d = 13.5', z = 2				
* Excavation	183,992	CY	\$3.50	\$643,972
Rock-revetted side slopes	39,648	CY	\$50.00	\$1,982,411
Side-slopes protection at bottom control structures	447	CY	\$90.00	\$40,249
Fence & Gates	8,666	LF	\$11.00	\$95,326
Right-of-Way	3	AC	\$15,000.00	\$43,270
1 Bottom control structure(s)	432	CY	\$90.00	\$38,880
Culvert				
OWS Road: (6) 14.5"W x 13.5"H (82')	820	CY	\$425.00	\$348,500
Sta. 161 + 70 to Sta. 175 + 41 (1371')				
Soft-Bottom Chnrl b = 60', d = 12.1', z = 2				
* Excavation	48,890	CY	\$3.50	\$171,815
Rock-revetted side slopes	11,480	CY	\$50.00	\$574,000
Side-slopes protection at bottom control structures	401	CY	\$90.00	\$36,075
Fence & Gates	2,742	LF	\$11.00	\$30,162
Right-of-Way	0	AC	\$3,000.00	\$0
1 Bottom control structure(s)	432	CY	\$90.00	\$38,880
Riprap for 25' D/S of concrete-lined channel	167	CY	\$70.00	\$11,667
Culvert				
Sage Avenue: (8) 10.5"W x 12.1'H RCB (60')	654	CY	\$425.00	\$277,950
Existing: (5) 12.5"W x 11'H RCB				

* Unit price includes \$1.00/CY for disposal of excess material.

**YUCCA VALLEY MASTER PLAN OF DRAINAGE
COST ESTIMATE FOR DETAINED ALTERNATIVE**

YUCCA WASH (Y01) Continued				
Facility Description	Quantity	Unit	Unit Cost	Estimated Cost
Sta. 175 + 41 to Sta. 178 + 42 (301') Existing Concrete-Lined Chnnl b = 65', d = 11.0', z = vert.	-			\$0
Sta. 178 + 42 to Sta. 181 + 82 (340') Existing Concrete-Lined Chnnl b = 32', d = 11.0', z = vert.	-			\$0
Sta. 181 + 82 to Sta. 186 + 17 (435') Existing Rock-Lined Chnnl b = 58', d = 11.0', z = 1.5 Culvert	-			\$0
Grand Avenue: (8) 10'W x 11'H (52')	536	CY	\$425.00	\$227,630
Sta. 186 + 17 to Sta. 202 + 35 (1618') Soft-Bottom Chnnl b = 30', d = 12', z = 2				
* Excavation	27,087	CY	\$3.50	\$94,803
Rock-revetted side slopes	11,911	CY	\$50.00	\$595,539
Side-slopes protection at bottom control structures	398	CY	\$90.00	\$35,777
Fence & Gates	3,236	LF	\$11.00	\$35,596
Right-of-Way	-	AC	\$3,000.00	\$0
1 Bottom control structure(s)	216	CY	\$90.00	\$19,440
Sta. 202 + 65 to Sta. 213 + 94 (1129') Soft-Bottom Chnnl b = 30', d = 12', z = 2				
* Excavation	23,584	CY	\$3.50	\$82,542
Rock-revetted side slopes	8,266	CY	\$50.00	\$413,300
Side-slopes protection at bottom control structures	398	CY	\$90.00	\$35,777
Fence & Gates	2,258	LF	\$11.00	\$24,838
Right-of-Way	-	AC	\$3,000.00	\$0
1 Bottom control structure(s)	216	CY	\$90.00	\$19,440
Culvert				
Palm Avenue: (4) 13.5'W x 12'H (54')	329	CY	\$425.00	\$139,995
Cholla Avenue: (4) 13.5'W x 12'H (58')	383	CY	\$425.00	\$162,690
Sta. 213 + 94 to Sta. 220 + 00 (606') Soft-Bottom Chnnl b = 30', d = 9.3', z = 2				
* Excavation	7,532	CY	\$3.50	\$26,362
Rock-revetted side slopes	3704	CY	\$50.00	\$185,191
Fence & Gates	1,212	LF	\$11.00	\$13,332
Right-of-Way	0.10	CY	\$15,000.00	\$1,502
Culvert				
Road to Mobile Home Park: (5) 9.5'W x 9.3'H (62')	372	CY	\$425.00	\$158,100
Sta. 220 + 00 to Sta. 235 + 00 (1500') Soft-Bottom Chnnl b = 18', d = 9.6', z = 2				
* Excavation	15,468	CY	\$3.50	\$54,137
Rock-revetted side slopes	8,646	CY	\$50.00	\$432,306
Fence & Gates	3,000	LF	\$11.00	\$33,000
Right-of-Way	-	AC	\$60,000.00	\$0
Culvert				
Twenty-nine Palms Hwy.: (3) 12.4'W x 9.6'H RCB (84')	378	CY	\$425.00	\$160,650
Sta. 235 + 00 to Sta. 237 + 00 (200') Soft-Bottom Chnnl b = 16', d = 8.8', z = 2				
* Excavation	2,652	CY	\$3.50	\$9,284
Rock-revetted side slopes	1,073	CY	\$50.00	\$53,666
Fence & Gates	400	LF	\$11.00	\$4,400
Right-of-Way	-	AC	\$60,000.00	\$0
Sta. 237 + 00 to Sta. 238 + 33 (133') Soft-Bottom Chnnl b = 16', d = 8.8', z = 2				
* Excavation	1,764	CY	\$3.50	\$6,174
Rock-revetted side slopes	714	CY	\$50.00	\$35,688
Fence & Gates	266	LF	\$11.00	\$2,926
Right-of-Way	0.19	AC	\$60,000.00	\$11,212
Riprap for 25' D/S of concrete-lined channel	113	CY	\$70.00	\$7,881
Culvert				
Acoma Trail: (3) 11'W x 8.8'H (60')	240	CY	\$425.00	\$102,000

* Unit price includes \$1.00/CY for disposal of excess material.

**YUCCA VALLEY MASTER PLAN OF DRAINAGE
COST ESTIMATE FOR DETAINED ALTERNATIVE**

YUCCA WASH (Y01) Continued				
Facility Description	Quantity	Unit	Unit Cost	Estimated Cost
Sta. 238 + 33 to Sta. 252 + 44 (1411')				
Concrete-Lined Chnnl b = 16', d = 7.2', z = 1.5				
• Excavation	7,576	CY	\$3.50	\$26,514
Concrete lining	1,462	CY	\$225.00	\$328,950
Fence & Gates	2,822	LF	\$11.00	\$31,042
Right-of-Way	1.5	AC	\$60,000.00	\$92,512
Culvert				
Apache Trail: (3) 9'W x 7.2'H (52')	177	CY	\$425.00	\$75,140
Bancock Trail: (3) 9'W x 7.2'H (52')	177	CY	\$425.00	\$75,140
Deer Trail: (3) 9'W x 7.2'H (52')	177	CY	\$425.00	\$75,140
Santa Fe Trail (Y01-03)				
Sta. 252 + 44 to Sta. 263 + 25				
Street Flow - Existing 36' Inverted Street				
Subtotal:				\$17,013,889
30% Contingency:				\$5,104,167
TOTAL COST:				\$22,118,055

HANFORD AVENUE DRAIN (Y01-01)				
Facility Description	Quantity	Unit	Unit Cost	Estimated Cost
Sta. 0 + 00 to Sta. 19 + 43 (1943')				
Soft-Bottom Chnnl b = 10', d = 6.7', z = 2				
• Excavation	14,075	CY	\$3.50	\$49,261
Rock-revetted side slopes	30,302	CY	\$50.00	\$1,515,096
Fence & Gates	3,886	LF	\$11.00	\$42,746
Right-of-Way	2.3	AC	\$15,000.00	\$34,658
Sta. 19 + 43 to Sta. 24 + 30 (487')				
Reinforced-Concrete Box: 7'W x 7'H				
RCB	577	CY	\$425.00	\$245,304
Excavation	4,545	CY	\$2.50	\$11,363
Backfill	3,391	CY	\$3.50	\$11,868
Street Pavement (R & R) and Traffic Control 36' wide street- 33'W x 487'L impacted street area	-	LS	\$73,591.00	\$73,591
Sta. 24 + 30 to Sta. 29 + 55 (525')				
Rock-Lined Channel b = 10', d = 7', z = 1.5				
• Excavation	4,846	CY	\$3.50	\$16,961
Rock lining	2,056	CY	\$50.00	\$102,780
Fence & Gates	1,050	LF	\$11.00	\$11,550
Right-of-Way	0.55	AC	\$60,000.00	\$33,264
Along Hanford Avenue - LOCAL FACILITY:				
Street Flow - Existing 26' Inverted Street				
Rock-Lined Chnnl b = 6', d = 5.5', z = 1.5 (889')				
• Excavation	5,132	CY	\$3.50	\$17,962
Rock lining	2,551	CY	\$50.00	\$127,574
Fence & Gates	1,778	LF	\$11.00	\$19,558
Right-of-Way	0.77	AC	\$3,000.00	\$2,296
Along Balsa Avenue (LOCAL FACILITY):				
Street Flow - Existing 26' Inverted Street				\$0
Subtotal:				\$2,315,833
30% Contingency:				\$694,750
TOTAL COST:				\$3,010,583

* Unit price includes \$1.00/CY for disposal of excess material.

**YUCCA VALLEY MASTER PLAN OF DRAINAGE
COST ESTIMATE FOR DETAINED ALTERNATIVE**

CRESTVIEW WASH (Y01-02)				
Facility Description	Quantity	Unit	Unit Cost	Estimated Cost
Sta. 0 + 00 to Sta. 6 + 05 (605')				
Rock-Lined Channel b = 10', d = 7.2', z = 1.5				
* Excavation	5,773	CY	\$3.50	\$20,206
Rock lining	2,417	CY	\$50.00	\$120,865
Fence & Gates	1,210	LF	\$11.00	\$13,310
Right-of-Way	0.65	AC	\$3,000.00	\$1,942
			Subtotal:	\$156,323
			30% Contingency:	\$46,897
			TOTAL COST:	\$203,220

YUCCA WASH TRIBUTARIES				
Facility Description	Quantity	Unit	Unit Cost	Estimated Cost
Church Channel :				
Existing Soft-Bottom Chnnl b = 8', d = 4', z = 2 (1354')	-			\$0
Soft-Bottom Chnnl b = 8', d = 4.2', z = 2 (1683')				
* Excavation	4,294	CY	\$3.50	\$15,027
Fence & Gates	3,366	LF	\$11.00	\$37,026
Right-of-Way	0.38	AC	\$15,000.00	\$5,680
Deer Trail:				
Street Flow - Existing 26' Inverted Street	-			\$0
Elk Trail :				
Street Flow - Existing 26' Inverted Street	-			\$0
Fox Trail:				
Street Flow - Existing 26' Inverted Street	-			\$0
Twenty-nine Palms Hwy. Drain:				
Street Flow - Existing 44' Inverted Street	-			\$0
Paxton Road Drain:				
Soft-Bottom Chnnl b = 8', d = 5.5', z = 2 (630')				
* Excavation	2,438	CY	\$3.50	\$8,534
Fence & Gates	1,260	LF	\$11.00	\$13,860
Right-of-Way	0.65	AC	\$15,000.00	\$9,762
54" Reinforced-Concrete Pipe (819')				
54" RCP	819	LF	\$158.00	\$129,402
Excavation	1,814	CY	\$2.50	\$4,536
Backfill	1,248	CY	\$3.50	\$4,369
48" Reinforced-Concrete Pipe (655')				
48" RCP	655	LF	\$130.00	\$85,150
Excavation	1,240	CY	\$2.50	\$3,100
Backfill	882	CY	\$3.50	\$3,088
Street Pavement (R & R) and Traffic Control	-	LS	\$25,545.00	\$25,545
Grand Avenue Drain:				
Soft-Bottom Chnnl b = 8', d = 4.9', z = 2 (1639')				
* Excavation	5,295	CY	\$3.50	\$18,531
Fence & Gates	3,278	LF	\$11.00	\$36,058
Right-of-Way - 800' length	0.78	AC	\$3,000.00	\$2,347
Right-of-Way - 839' length	0.82	AC	\$15,000.00	\$12,308
Prescott Avenue Drain:				
Soft-Bottom Chnnl b = 6', d = 5.4', z = 2 (581')				
* Excavation	1,952	CY	\$3.50	\$6,833
Fence & Gates	1,162	LF	\$11.00	\$12,782
Right-of-Way	0.57	AC	\$60,000.00	\$34,092
			Subtotal:	\$468,030
			30% Contingency:	\$140,409
			TOTAL COST:	\$608,439

* Unit price includes \$1.00/CY for disposal of excess material.

**YUCCA VALLEY MASTER PLAN OF DRAINAGE
COST ESTIMATE FOR DETAINED ALTERNATIVE**

WEST BURNT MTN. WASH (Y02)				
Facility Description	Quantity	Unit	Unit Cost	Estimated Cost
Sta. 0 + 00 to Sta. 21 + 71 (2171')				
Soft-Bottom Chnrl b = 30', d = 6.1', z = 2				
* Excavation	28,836	CY	\$3.50	\$100,925
Rock-revetted side slopes	7,659	CY	\$50.00	\$382,966
Fence & Gates	4,342	LF	\$11.00	\$47,762
Right-of-Way	-	AC	\$15,000.00	\$0
Sta. 21 + 71 to Sta. 34 + 33 (1262')				
Rock-Lined Chnrl b = 28', d = 6.1', z = 1.5				
* Excavation	0	CY	\$3.50	\$0
Rock lining	7,010	CY	\$50.00	\$350,513
Fence & Gates	2,524	LF	\$11.00	\$27,764
Right-of-Way	-	AC	\$15,000.00	\$0
Culvert				
Sunnyslope Drive : (4) 9'W x 6.1'H RCB (94')	367	CY	\$425.00	\$155,805
Road Crossing 250' D/S of 29 Palms : (4) 9'W x 6.1'H RCB (46')	193	CY	\$425.00	\$82,110
Twenty-nine Palms Hwy. :	-	CY		\$0
Existing: (2) 14'W x 8'H RCB				
Sta. 40 + 00 to Sta. 44 + 00 (400')				
Rock-Lined Chnrl b = 12', d = 7.7', z = 1.5				
* Excavation	0	CY	\$3.50	\$0
Rock lining	2,505	CY	\$50.00	\$125,253
Fence & Gates	1,134	LF	\$11.00	\$12,474
Right-of-Way	-	AC	\$60,000.00	\$0
Sta. 44 + 00 to Sta. 50 + 50 (650')				
Rock-Lined Chnrl b = 12', d = 7.7', z = 1.5				
* Excavation	3,046	CY	\$3.50	\$10,662
Rock lining	1,767	CY	\$50.00	\$88,362
Fence & Gates	800	LF	\$11.00	\$8,800
Right-of-Way	0.69	AC	\$15,000.00	\$10,344
Sta. 50 + 50 to Sta. 56 + 15 (565')				
Rock-Lined Chnrl b = 12', d = 7.7', z = 1.5				
* Excavation	4,950	CY	\$3.50	\$17,326
Rock lining	2,872	CY	\$50.00	\$143,588
Fence & Gates	1,300	LF	\$11.00	\$14,300
Right-of-Way	0.76	AC	\$15,000.00	\$11,371
Sta. 56 + 15 to Sta. 82 + 94 (1279')				
Rock-Lined Chnrl b = 6', d = 6.5', z = 1.5				
* Excavation	3,655	CY	\$3.50	\$12,794
Rock lining	1,848	CY	\$50.00	\$92,397
Fence & Gates	1,130	LF	\$11.00	\$12,430
Right-of-Way	-	AC	\$15,000.00	\$0
Culvert				
Airway Drive : (2) 8'W x 6.5'H RCB (56')	118	CY	\$425.00	\$49,980
Sta. 82 + 94 to Sta. 132 + 25 (4931')				
Rock-Lined Chnrl b = 6', d = 5.9', z = 1.5				
* Excavation	5,906	CY	\$3.50	\$20,672
Rock lining	4,183	CY	\$50.00	\$209,160
Fence & Gates	2,558	LF	\$11.00	\$28,138
Right-of-Way	1.3	AC	\$3,000.00	\$4,008
Culvert				
Yucca Trail: (2) 8'W x 6.5'H (114')	239	CY	\$425.00	\$101,745
Joshua View Drive: (2) 8'W x 6.5'H (76')	160	CY	\$425.00	\$67,830
Valley Vista Avenue: (2) 8'W x 6.5'H (76')	160	CY	\$425.00	\$67,830
Sta. 82 + 94 to Sta. 132 + 25 (4931')				
Rock-Lined Chnrl b = 6', d = 5.9', z = 1.5				
* Excavation	18,890	CY	\$3.50	\$66,115
Rock lining	14,942	CY	\$50.00	\$747,122
Fence & Gates	9,862	LF	\$11.00	\$108,482
Right-of-Way	4.9	AC	\$3,000.00	\$14,841

* Unit price includes \$1.00/CY for disposal of excess material.

**YUCCA VALLEY MASTER PLAN OF DRAINAGE
COST ESTIMATE FOR DETAINED ALTERNATIVE**

WEST BURNT MTN. WASH (Y02) Continued				
Facility Description	Quantity	Unit	Unit Cost	Estimated Cost
Sta. 82 + 94 to Sta. 132 + 25 (4931') Continued				
Culvert				
Elata Avenue: (2) 7.5'W x 5.9'H (64')	128	CY	\$425.00	\$54,400
Joshua Lane: (2) 7.5'W x 5.9'H (66')	132	CY	\$425.00	\$56,100
Onaga Trail: (2) 7.5'W x 5.9'H (54')	108	CY	\$425.00	\$45,900
Navajo Trail: (2) 7.5'W x 5.9'H (58')	116	CY	\$425.00	\$49,300
Joshua Lane: (2) 7.5'W x 5.9'H (66')	132	CY	\$425.00	\$56,100
Quail Trail: (2) 7.5'W x 5.9'H (52')	104	CY	\$425.00	\$44,200
Sta. 30 + 10 to Sta. 59 + 67 (Upstream of West Burnt Mtn. Basin)				
Soft-Bottom Chnrl b = 12', d = 8.2', z = 2 (2957')				
* Excavation	28,965	CY	\$3.50	\$101,379
Rock-revetted side slopes	14,785	CY	\$50.00	\$739,229
Side-slopes protection at bottom control structures	543	CY	\$90.00	\$48,895
Fence & Gates	5,914	LF	\$11.00	\$65,054
Right-of-Way	-	AC	\$3,000.00	\$0
2 Bottom control structure(s)	173	CY	\$90.00	\$15,552
Culvert				
Warren Vista Avenue: (3) 9.5'W x 8.2'H (56')	202	CY	\$425.00	\$85,680
Joshua Lane: (3) 9.5'W x 8.2'H (56')	202	CY	\$425.00	\$85,680
Ivanhoe Drive: (3) 9.5'W x 8.2'H (52')	187	CY	\$425.00	\$79,560
Sta. 59 + 67 to Sta. 68 + 76 (Upstream of West Burnt Mtn. Basin)				
Soft-Bottom Chnrl b = 12', d = 7.6', z = 2 (909')				
* Excavation	7,862	CY	\$3.50	\$27,516
Rock-revetted side slopes	4,336	CY	\$50.00	\$216,809
Fence & Gates	1,818	LF	\$11.00	\$19,998
Right-of-Way	-	AC	\$3,000.00	\$0
Culvert				
San Andreas Road: (3) 9.0'W x 7.6'H (52')	177	CY	\$425.00	\$75,140
West Burnt Mtn. Wash Tributary - LOCAL FACILITY:				
Along Hilton Avenue:				
Rock-Lined Channel b = 6', d = 4.8', z = 1.5 (1211')				
* Excavation	5,978	CY	\$3.50	\$20,922
Rock lining	3,136	CY	\$50.00	\$156,802
Fence & Gates	2,442	LF	\$11.00	\$26,862
Right-of-Way	-	AC	\$3,000.00	\$0
Warren Vista Drain (Y02-01):				
Sta. 0 + 00 to Sta. 30 + 64 (3064')				
Rock-Lined Channel b = 8', d = 6.7', z = 1.5				
* Excavation	24,672	CY	\$3.50	\$86,351
Rock lining	10,948	CY	\$50.00	\$547,387
Fence & Gates	6,128	LF	\$11.00	\$67,408
Right-of-Way	3.0	AC	\$3,000.00	\$9,095
Subtotal:				\$5,975,186
30% Contingency:				\$1,792,556
				\$7,767,742

EAST BURNT MTN. WASH (Y03)				
Facility Description	Quantity	Unit	Unit Cost	Estimated Cost
Sta. 0 + 00 to Sta. 33 + 63 (3363')				
Reinforced-Concrete Box: 6'W x 6'H				
RCB	3,488	CY	\$425.00	\$1,482,211
Excavation	17,936	CY	\$2.50	\$44,840
Backfill	9,964	CY	\$3.50	\$34,876
Street Pavement (R & R)	-	LS	\$444,663.00	\$444,663
36' wide street- 31'W x 3363'L impacted street area				

* Unit price includes \$1.00/CY for disposal of excess material.

**YUCCA VALLEY MASTER PLAN OF DRAINAGE
COST ESTIMATE FOR DETAINED ALTERNATIVE**

EAST BURNT MTN. WASH (Y03) Continued				
Facility Description	Quantity	Unit	Unit Cost	Estimated Cost
Sta. 33 + 63 to Sta. 48 + 60 (1497') Rock-Lined Chnnl b = 6', d = 5.6', z = 1.5				
* Excavation	9,635	CY	\$3.50	\$33,721
Rock lining	5,164	CY	\$50.00	\$258,182
Fence & Gates	2,994	LF	\$11.00	\$32,934
Right-of-Way	1.3	AC	\$3,000.00	\$3,897
Sta. 0 + 00 to Sta. 30 + 41 (Upstream of East Burnt Mtn. Basin) Rock-Lined Chnnl b = 16', d = 9.7', z = 1.5 (3041')				
* Excavation	41,726	CY	\$3.50	\$146,042
Rock lining	20,064	CY	\$50.00	\$1,003,187
Fence & Gates	6,082	LF	\$11.00	\$66,902
Right-of-Way	5.9	AC	\$3,000.00	\$17,823
Sta. 30 + 41 to Sta. 39 + 26 (Upstream of East Burnt Mtn. Basin) Soft-Bottom Chnnl b = 16', d = 8.1', z = 2 (885')				
* Excavation	8,575	CY	\$3.50	\$30,014
Rock-revetted side slopes	4,341	CY	\$50.00	\$217,060
Side-slopes protection at bottom control structures	268	CY	\$90.00	\$24,150
Fence & Gates	1,770	LF	\$11.00	\$19,470
Right-of-Way	-	AC	\$3,000.00	\$0
1 Bottom control structure(s)	115	CY	\$90.00	\$10,368
Culvert corrected Joshua Drive: (3) 10.7'W x 8.1'H (52')	203	CY	\$425.00	\$86,190
Sta. 39 + 26 to Sta. 53 + 82 (Upstream of East Burnt Mtn. Basin) Soft-Bottom Chnnl b = 12', d = 7.9', z = 2 (1456')				
* Excavation	11,369	CY	\$3.50	\$39,790
Rock-revetted side slopes	6,867	CY	\$50.00	\$343,371
Side-slopes protection at bottom control structures	785	CY	\$90.00	\$70,660
Fence & Gates	2,912	LF	\$11.00	\$32,032
Right-of-Way	-	AC	\$3,000.00	\$0
3 Bottom control structure(s)	259	CY	\$90.00	\$23,328
Culvert corrected Bonanza Drive: (3) 9.2'W x 7.9'H (52')	182	CY	\$425.00	\$77,350
corrected Carlyle Drive: (3) 9.2'W x 7.9'H (52')	182	CY	\$425.00	\$77,350
corrected Desert Gold Drive: (3) 9.2'W x 7.9'H (52')	182	CY	\$425.00	\$77,350
corrected El Dorado Drive: (3) 9.2'W x 7.9'H (52')	182	CY	\$425.00	\$77,350
Sta. 53 + 82 to Sta. 87 + 45 (Upstream of East Burnt Mtn. Basin) Soft-Bottom Chnnl b = 12', d = 7.6', z = 2 (3363')				
* Excavation	24,353	CY	\$3.50	\$85,236
Rock-revetted side slopes	15,565	CY	\$50.00	\$778,271
Side-slopes protection at bottom control structures	1,259	CY	\$90.00	\$113,294
Fence & Gates	6,726	LF	\$11.00	\$73,986
Right-of-Way	-	AC	\$3,000.00	\$0
5 Bottom control structure(s)	432	CY	\$90.00	\$38,880
Culvert corrected Joshua Lane: (3) 9'W x 7.6'H (72')	245	CY	\$425.00	\$104,040
corrected Juarez Drive: (3) 9'W x 7.6'H (56')	190	CY	\$425.00	\$80,920
corrected Libson Drive: (3) 9'W x 7.6'H (56')	190	CY	\$425.00	\$80,920
East Burnt Mtn. Wash Tributaries (Y03-01): Sta. 0 + 00 to Sta. 9 + 12 (912')				
Soft-Bottom Chnnl b = 8', d = 5.8', z = 2 (912')				
* Excavation	4,961	CY	\$3.50	\$17,364
Rock-revetted side slopes	3,082	CY	\$50.00	\$154,080
Fence & Gates	1,824	LF	\$11.00	\$20,064
Right-of-Way	0.97	AC	\$3,000.00	\$2,902
Soft-Bottom Chnnl b = 8', d = 4.2', z = 2 (1151') - LOCAL FACILITY				
* Excavation	4,079	CY	\$3.50	\$14,276
Rock-revetted side slopes	2,974	CY	\$50.00	\$148,703
Fence & Gates	2,302	LF	\$11.00	\$25,322
Right-of-Way	1.1	AC	\$3,000.00	\$3,155

* Unit price includes \$1.00/CY for disposal of excess material.

**YUCCA VALLEY MASTER PLAN OF DRAINAGE
COST ESTIMATE FOR DETAINED ALTERNATIVE**

EAST BURNT MTN. WASH (Y03) Continued				
Facility Description	Quantity	Unit	Unit Cost	Estimated Cost
Street Flow - Existing 26' Inverted Street (along Navajo Trail)- LOCAL FACILITY	-			\$0
Subtotal:				\$6,516,525
30% Contingency:				\$1,954,957
TOTAL COST:				\$8,471,482

LONG CANYON CHANNEL (Y07)				
Facility Description	Quantity	Unit	Unit Cost	Estimated Cost
Sta. 0 + 00 to Sta. 4 + 50 (450')				
Existing Concrete-Lined Chnlns (2) b = 15.5', d = 11', z = vert.	-			\$0
Sta. 4 + 50 to Sta. 10 + 00 (550')				
Existing Concrete-Lined Chnln b = 31', d = 11', z = vert.	-			\$0
Existing Culvert:				
Antelope Trail: (2) 13.6' x 11' RCB	-			\$0
Sta. 10 + 00 to Sta. 16 + 60 (660')				
Existing Concrete-Lined Chnln b = 28', d = 11', z = vert.	-			\$0
Existing Culvert:				
Twenty-nine Palms Hwy.: (3) 10' x 8' RCB	-			\$0
Sta. 16 + 60 to Sta. 23 + 90 (730')				
Rock-Lined Chnln b = 30', d = 8.4', z = 1.5				
* Excavation	10,023	CY	\$3.50	\$35,079
Rock lining	4,890	CY	\$50.00	\$244,496
Fence & Gates	1,460	LF	\$11.00	\$16,060
Right-of-Way	1.03	AC	\$60,000.00	\$61,537
Sta. 23 + 90 to Sta. 38 + 04 (1414')				
Rock-Lined Chnln b = 12', d = 7.3', z = 1.5				
* Excavation	7,847	CY	\$3.50	\$27,463
Rock lining	6,021	CY	\$50.00	\$301,029
Fence & Gates	2,828	LF	\$11.00	\$31,108
Right-of-Way	2.4	AC	\$15,000.00	\$35,983
Culvert				
Sage Avenue: (2) 11.5'W x 7.3'H RCB (140')	378	CY	\$425.00	\$160,650
Sta. 38 + 04 to Sta. 78 + 92 (4088')				
Rock-Lined Chnln b = 12', d = 7.3', z = 1.5				
* Excavation	38,206	CY	\$3.50	\$133,723
Rock lining	17,383	CY	\$50.00	\$869,132
Fence & Gates	8,176	LF	\$11.00	\$89,936
Right-of-Way	6.9	AC	\$3,000.00	\$20,806
corrected Purchase of Residents (1 house)	1	EACH	\$80,000.00	\$80,000
Culvert				
Onaga Trail: (2) 11.5'W x 7.3'H RCB (54')	146	CY	\$425.00	\$61,965
Navajo Trail: (2) 11.5'W x 7.3'H RCB (52')	140	CY	\$425.00	\$59,670
Joshua Drive: (2) 11.5'W x 7.3'H RCB (54')	146	CY	\$425.00	\$61,965
Sta. 0 + 00 to Sta. 22 + 17 (Upstream of Long Canyon Basin)				
Rock-Lined Chnln b = 30', d = 11.2', z = 1.5 (2217')				
* Excavation	52,987	CY	\$3.50	\$185,454
Rock lining	17,337	CY	\$50.00	\$866,874
Fence & Gates	4,434	LF	\$11.00	\$48,774
Right-of-Way	5.3	AC	\$3,000.00	\$15,818
Culvert				
Golden Bee Drive: (3) 12.5'W x 11.2'H RCB (52')	244	CY	\$425.00	\$103,870
Sage Avenue Drain (Y07-01):				
Sta. 0 + 00 to Sta. 3 + 55 (355')				
Soft-Bottom Chnln b = 8', d = 5.8', z = 2				
* Excavation	824	CY	\$3.50	\$2,884
Fence & Gates	710	LF	\$11.00	\$7,810
Right-of-Way	0.37	AC	\$3,000.00	\$1,110
Street Flow - Existing 26' Inverted Street (along Sage Ave.) LOCAL FACILITY	-			\$0
Subtotal:				\$3,523,196
30% Contingency:				\$1,056,959
TOTAL COST:				\$4,580,155

* Unit price includes \$1.00/CY for disposal of excess material.

**YUCCA VALLEY MASTER PLAN OF DRAINAGE
COST ESTIMATE FOR DETAINED ALTERNATIVE**

HOSPITAL CHANNEL (Y09)				
Facility Description	Quantity	Unit	Unit Cost	Estimated Cost
Sta. 0+00 to Sta. 10+00 (1000')				
Rock-Lined Chnrl b = 26', d = 7.8', z = 1.5				
* Excavation	0	CY	\$3.50	\$0
Rock lining	6,014	CY	\$50.00	\$300,685
Fence & Gates	2,000	LF	\$11.00	\$22,000
Right-of-Way	1.8	AC	\$15,000.00	\$27,342
Sta. 10+00 to Sta. 22+08 (1208')				
Rock-Lined Chnrl b = 26', d = 7.8', z = 1.5				
* Excavation	0	CY	\$3.50	\$0
Rock lining	9,979	CY	\$50.00	\$498,960
Fence & Gates	2,416	LF	\$11.00	\$26,576
Right-of-Way	-	AC	\$15,000.00	\$0
Sta. 22+08 to Sta. 30+00 (792')				
Rock-Lined Chnrl b = 26', d = 6.9', z = 1.5				
* Excavation	0	CY	\$3.50	\$0
Rock lining	4,477	CY	\$50.00	\$223,865
Fence & Gates	1,584	LF	\$11.00	\$17,424
Right-of-Way	-	AC	\$15,000.00	\$0
Culvert corrected Road to Mobile Home Park : (3) 12.1'W x 6.9'H RCB (52')	208	CY	\$425.00	\$88,400
Sta. 30+00 to Sta. 36+89 (689')				
Rock-Lined Chnrl b = 26', d = 6.9', z = 1.5				
* Excavation	0	CY	\$3.50	\$0
Rock lining	4,201	CY	\$50.00	\$210,062
Fence & Gates	1,378	LF	\$11.00	\$15,158
Right-of-Way	1.3	AC	\$15,000.00	\$19,147
Sta. 36+89 to Sta. 64+55 (2766')				
Rock-Lined Chnrl b = 15', d = 9.7', z = 1.5				
* Excavation	29,033	CY	\$3.50	\$101,615
Rock lining	15,359	CY	\$50.00	\$767,931
Fence & Gates	5,532	LF	\$11.00	\$60,852
Right-of-Way	5.3	AC	\$3,000.00	\$16,021
Culvert corrected Onaga Trail : (3) 9.8'W x 9.7'H RCB (54')	211	CY	\$425.00	\$89,505
Sta. 64+55 to Sta. 77+97 (1342')				
Rock-Lined Chnrl b = 15', d = 7.8', z = 1.5				
* Excavation	9,954	CY	\$3.50	\$34,838
Rock lining	6,430	CY	\$50.00	\$321,508
Fence & Gates	2,684	LF	\$11.00	\$29,524
Right-of-Way	2.1	AC	\$3,000.00	\$6,322
corrected Purchase of Residences (7 houses)	7	EACH	\$80,000.00	\$560,000
Culvert corrected Joshua Drive : (3) 8.9'W x 7.8'H RCB (76')	258	CY	\$425.00	\$109,820
corrected Anaconda Drive : (3) 8.9'W x 7.8'H RCB (52')	177	CY	\$425.00	\$75,140
corrected Bonanza Drive : (3) 8.9'W x 7.8'H RCB (52')	177	CY	\$425.00	\$75,140
corrected Carlyle Drive : (3) 8.9'W x 7.8'H RCB (52')	177	CY	\$425.00	\$75,140
Sta. 77+97 to Sta. 84+00 (603')				
Rock-Lined Chnrl b = 15', d = 7.8', z = 1.5				
* Excavation	7,362	CY	\$3.50	\$25,766
Rock lining	2,889	CY	\$50.00	\$144,463
Fence & Gates	1,206	LF	\$11.00	\$13,266
Right-of-Way	-	AC	\$3,000.00	\$0
Culvert corrected Desert Gold Drive : (3) 8.9'W x 7.8'H RCB (52')	177	CY	\$425.00	\$75,140

* Unit price includes \$1.00/CY for disposal of excess material.

**YUCCA VALLEY MASTER PLAN OF DRAINAGE
COST ESTIMATE FOR DETAINED ALTERNATIVE**

HOSPITAL CHANNEL (Y09) Continued				
Facility Description	Quantity	Unit	Unit Cost	Estimated Cost
Sta. 84 + 00 to Sta. 88 + 72 (472) Rock-Lined Chnnl b = 15', d = 5.7', z = 1.5				
* Excavation	4,071	CY	\$3.50	\$14,249
Rock lining	1,864	CY	\$50.00	\$93,224
Fence & Gates	944	LF	\$11.00	\$10,384
Right-of-Way	-	AC	\$3,000.00	\$0
Subtotal:				\$4,149,467
30% Contingency:				\$1,244,840
TOTAL COST:				\$5,394,307

HIGH SCHOOL CHANNEL (Y09-01)				
Facility Description	Quantity	Unit	Unit Cost	Estimated Cost
Sta. 0 + 00 to Sta. 17 + 14 (1714') Rock-Lined Chnnl b = 12', d = 5.7', z = 1.5				
* Excavation	0	CY	\$3.50	\$0
Rock lining	6,199	CY	\$50.00	\$309,964
Fence & Gates	3,428	LF	\$11.00	\$37,708
Right-of-Way	-	AC	\$15,000.00	\$0
Extensions of High School Channel - LOCAL FACILITIES:				
Soft-Bottom Chnnl b = 8', d = 5.1', z = 2 (1315')				
* Excavation	3,254	CY	\$3.50	\$11,389
Fence & Gates	2,630	LF	\$11.00	\$28,930
Right-of-Way	1.2	AC	\$3,000.00	\$3,469
Soft-Bottom Chnnl b = 8', d = 4.8', z = 2 (557')				
* Excavation	1,267	CY	\$3.50	\$4,436
Fence & Gates	1,114	LF	\$11.00	\$12,254
Right-of-Way	0.48	AC	\$3,000.00	\$1,435
Subtotal:				\$409,584
30% Contingency:				\$122,875
TOTAL COST:				\$532,459

CHOLLA AVENUE DRAIN				
Facility Description	Quantity	Unit	Unit Cost	Estimated Cost
Along Joshua Drive - LOCAL FACILITY: Soft-Bottom Chnnl b = 16', d = 5.4', z = 2 (419')				
* Excavation	1,680	CY	\$3.50	\$5,881
Fence & Gates	838	LF	\$11.00	\$9,218
Right-of-Way	0.65	AC	\$3,000.00	\$1,951
Along Cholla Avenue - LOCAL FACILITY: Street Flow - Existing 36' Inverted Street				\$0
Along El Dorado Drive (Y09-02): Sta. 0 + 00 to Sta. 3 + 02 (302')				
Reinforced Concrete Box: 6'W x 6'H				
RCB	313	CY	\$425.00	\$133,104
Excavation	2,461	CY	\$2.50	\$6,152
Backfill	1,745	CY	\$3.50	\$6,107
Street Pavement (R & R) and Traffic Control 36' wide street- 31'W x 302'L impacted street area	-	LS	\$39,931.00	\$39,931
Along Cholla Avenue (Y09-02): Sta. 3 + 02 to Sta. 9 + 70 (668')				
Rock-Lined Chnnl b = 6', d = 6.7', z = 1.5				
* Excavation	4,066	CY	\$3.50	\$14,231
Rock lining	2,238	CY	\$50.00	\$111,917
Fence & Gates	1,336	LF	\$11.00	\$14,696
Right-of-Way	0.71	AC	\$3,000.00	\$2,121
Subtotal:				\$345,307
30% Contingency:				\$103,592
TOTAL COST:				\$448,899

* Unit price includes \$1.00/CY for disposal of excess material.

**YUCCA VALLEY MASTER PLAN OF DRAINAGE
COST ESTIMATE FOR DETAINED ALTERNATIVE**

ACOMA CHANNEL (Y10)				
Facility Description	Quantity	Unit	Unit Cost	Estimated Cost
Sta. 0 + 00 to Sta. 39 + 97 (3997')				
Rock-Lined Chnnl b = 10', d = 5.6', z = 1.5				
* Excavation	22,693	CY	\$3.50	\$79,426
Rock lining	13,408	CY	\$50.00	\$670,410
Fence & Gates	7,994	LF	\$11.00	\$87,934
Right-of-Way	4.3	AC	\$3,000.00	\$12,883
Sta. 14 + 39 to Sta. 26 + 16 (Upstream of Acoma Basin)				
Soft-Bottom Chnnl b = 20', d = 7.2', z = 2 (1177')				
* Excavation	0	CY	\$3.50	\$0
Fence & Gates	2,354	LF	\$11.00	\$25,894
Right-of-Way	-	AC	\$3,000.00	\$0
Culvert				
corrected Desert Gold Drive: (3) 11.5'W x 7.2'H RCB (74')	289	CY	\$425.00	\$122,655
Subtotal:				\$999,202
30% Contingency:				\$299,760
TOTAL COST:				\$1,298,962

DEER TRAIL CHANNEL (Y11)				
Facility Description	Quantity	Unit	Unit Cost	Estimated Cost
Sta. 0 + 00 to Sta. 3 + 00 (300')				
Soft-Bottom Chnnl b = 12', d = 8.1', z = 2				
* Excavation	2,991	CY	\$3.50	\$10,470
Rock-revetted side slopes	1,506	CY	\$50.00	\$75,281
Fence & Gates	600	LF	\$11.00	\$6,600
Right-of-Way	0.02	AC	\$3,000.00	\$50
Sta. 3 + 00 to Sta. 15 + 65 (1265')				
Soft-Bottom Chnnl b = 12', d = 7.3', z = 2				
* Excavation	10,709	CY	\$3.50	\$37,483
Rock-revetted side slopes	5,846	CY	\$50.00	\$292,291
Fence & Gates	2,530	LF	\$11.00	\$27,830
Right-of-Way	-	AC	\$3,000.00	\$0
Culvert				
corrected Desert Gold Drive: (3) 8.8'W x 7.3'H RCB (52')	172	CY	\$425.00	\$72,930
Deer Trail Channel Tributary - LOCAL FACILITY:				
Existing Soft-Bottom Chnnl b = 12', d = 4', z = 2	-			\$0
Subtotal:				\$522,934
30% Contingency:				\$156,880
TOTAL COST:				\$679,815

* Unit price includes \$1.00/CY for disposal of excess material.

**YUCCA VALLEY MASTER PLAN OF DRAINAGE
COST ESTIMATE FOR DETAINED ALTERNATIVE**

WATER CANYON CHANNEL (Y12)				
Facility Description	Quantity	Unit	Unit Cost	Estimated Cost
Sta. 0 + 00 to Sta. 22 + 32 (2232')				
Rock-Lined Chnnl b = 18', d = 7.6', z = 1.5				
* Excavation	25,763	CY	\$3.50	\$90,170
Rock lining	11,260	CY	\$50.00	\$562,987
Fence & Gates	4,464	LF	\$11.00	\$49,104
Right-of-Way	4.1	AC	\$15,000.00	\$62,102
Culvert				
corrected Road to Mobile Home Park: (2) 14.5'W x 7.6'H RCB (52')	166	CY	\$425.00	\$70,720
corrected Scarvin Road: (2) 14.5'W x 7.6'H RCB (52')	166	CY	\$425.00	\$70,720
corrected Acoma Trail: (2) 14.5'W x 7.6'H RCB (52')	166	CY	\$425.00	\$70,720
Sta. 22 + 32 to Sta. 58 + 00 (3568')				
Rock-Lined Chnnl b = 18', d = 7.2', z = 1.5				
* Excavation	34,633	CY	\$3.50	\$121,216
Rock lining	13,574	CY	\$50.00	\$678,704
Fence & Gates	7,136	LF	\$11.00	\$78,496
Right-of-Way	6.5	AC	\$3,000.00	\$19,560
Culvert				
Pawnee Avenue: (2) 14.5'W x 7.2'H RCB (52')	109	CY	\$425.00	\$46,410
Apache Avenue: (2) 14.5'W x 7.2'H RCB (52')	109	CY	\$425.00	\$46,410
Sioux Avenue: (2) 14.5'W x 7.2'H RCB (66')	139	CY	\$425.00	\$58,905
Cherokee Trail: (2) 14.5'W x 7.2'H RCB (66')	139	CY	\$425.00	\$58,905
Pioneertown Road: (2) 14.5'W x 7.2'H RCB (74')	155	CY	\$425.00	\$66,045
Sta. 58 + 00 to Sta. 82 + 52 (2452')				
Soft-Bottom Chnnl b = 100', d = 3.9', z = 2				
* Excavation	76,323	CY	\$3.50	\$267,129
Rock-revetted side slopes	10,578	CY	\$50.00	\$528,924
Side-slopes protection at bottom control structure(s)	388	CY	\$90.00	\$34,883
Fence & Gates	4,904	LF	\$11.00	\$53,944
Right-of-Way	8.8	AC	\$3,000.00	\$26,276
3 Bottom control structure(s)	2,160	CY	\$90.00	\$194,400
Culvert				
Pioneertown Road: (5) 9.5'W x 9'H RCB (74')	444	CY	\$425.00	\$188,700
Water Canyon Tributary - Sioux Avenue Drain (Y12-01):				
Sta. 0 + 00 to Sta. 15 + 63 (1563')				
Street Flow - Existing 26' Inverted Street				
				\$0
			Subtotal:	\$3,445,431
			30% Contingency:	\$1,033,629
			TOTAL COST:	\$4,479,060

* Unit price includes \$1.00/CY for disposal of excess material.

**YUCCA VALLEY MASTER PLAN OF DRAINAGE
COST ESTIMATE FOR DETAINED ALTERNATIVE**

KICKAPOO DRAIN (K01)				
Facility Description	Quantity	Unit	Unit Cost	Estimated Cost
Sta. 0 + 00 to Sta. 6 + 78 (678')				
Soft-Bottom Chnnl b = 6', d = 5.9', z = 2				
* Excavation	2,637	CY	\$3.50	\$9,230
Fence & Gates	1,356	LF	\$11.00	\$14,916
Right-of-Way	0.69	AC	\$3,000.00	\$2,083
Sta. 6 + 78 to Sta. 29 + 95 (2317')				
54" Reinforced-Concrete Pipe				
54" RCP	2,317	LF	\$158.00	\$366,086
Excavation	5,133	CY	\$2.50	\$12,832
Backfill	3,532	CY	\$3.50	\$12,361
Street Pavement (R & R) and Traffic Control 36' wide street- 6.5'W x 2317'L trench	-	LS	\$109,826.00	\$109,826
Subtotal:				\$527,334
30% Contingency:				\$158,200
TOTAL COST:				\$685,534

LA HONDA DRAIN (K01-01)				
Facility Description	Quantity	Unit	Unit Cost	Estimated Cost
Sta. 0 + 00 to Sta. 10 + 23 (1023')				
Soft-Bottom Chnnl b = 6', d = 9', z = 2				
* Excavation	8,184	CY	\$3.50	\$28,644
Fence & Gates	2,046	LF	\$11.00	\$22,506
Right-of-Way	1.3	AC	\$60,000.00	\$80,318
Sta. 10 + 23 to Sta. 12 + 00 (177')				
Soft-Bottom Chnnl b = 6', d = 5.0', z = 2				
* Excavation	524	CY	\$3.50	\$1,836
Fence & Gates	354	LF	\$11.00	\$3,894
Right-of-Way	0.17	AC	\$60,000.00	\$9,996
Sta. 12 + 00 to Sta. 13 + 98 (198')				
54" Reinforced Concrete Pipe				
54" RCP	198	LF	\$158.00	\$31,284
Excavation	439	CY	\$2.50	\$1,097
Backfill	302	CY	\$3.50	\$1,056
Street Pnvement (R & R) and Traffic Control 36' wide street- 6.5'W x 198'L trench	-	LS	\$9,385.00	\$9,385
Subtotal:				\$190,016
30% Contingency:				\$57,005
TOTAL COST:				\$247,020

* Unit price includes \$1.00/CY for disposal of excess material.

**YUCCA VALLEY MASTER PLAN OF DRAINAGE
COST ESTIMATE FOR DETAINED ALTERNATIVE**

INCA TRAIL WASH (K01-03)				
Facility Description	Quantity	Unit	Unit Cost	Estimated Cost
Sta. 0 + 00 to Sta. 13 + 95 (1395')				
54" Reinforced Concrete Pipe				
54" RCP	1,395	LF	\$158.00	\$220,410
Excavation	3,090	CY	\$2.50	\$7,726
Backfill	2,126	CY	\$3.50	\$7,442
Street Pavement (R & R) and Traffic Control	-	LS	\$66,123.00	\$66,123
44' wide street- 6.5'W x 1395'L trench				
Along Santa Fe Trail - LOCAL FACILITY:				
Street Flow - Existing 36' Inverted Street (698')	-			\$0
Along Jemez Trail - LOCAL FACILITY:				
Street Flow - Existing 26' Inverted Street (1413')	-			\$0
Rock-Lined Chnnl b = 4', d = 5.4', z = 1.5 (1012') - LOCAL FACILITY				
* Excavation	4,488	CY	\$3.50	\$15,709
Rock lining	2,639	CY	\$50.00	\$131,953
Fence & Gates	2,024	LF	\$11.00	\$22,264
Right-of-Way	0.94	AC	\$15,000.00	\$14,148
Subtotal:				\$485,777
30% Contingency:				\$145,733
TOTAL COST:				\$631,510

PINON CREEK (P01)				
Facility Description	Quantity	Unit	Unit Cost	Estimated Cost
Sta. 44 + 03 to Sta. 50 + 00 (597')				
Soft-Bottom Chnnl b = 40', d = 5.7', z = 2				
* Excavation	8,406	CY	\$3.50	\$29,422
Rock-revetted side slopes	2,878	CY	\$50.00	\$143,876
Fence & Gates	1,194	LF	\$11.00	\$13,134
Right-of-Way	-	AC	\$3,000.00	\$0
Sta. 50 + 00 to Sta. 76 + 45 (2645')				
Soft-Bottom Chnnl b = 30', d = 5.8', z = 2				
* Excavation	8,119	CY	\$3.50	\$28,417
Rock-revetted side slopes	11,566	CY	\$50.00	\$578,297
Fence & Gates	5,290	LF	\$11.00	\$58,190
Right-of-Way	-	AC	\$3,000.00	\$0
Culvert				
corrected Camino del Cielo: (4) 10.4'W x 5.8'H (52')	234	CY	\$425.00	\$99,450
corrected La Vina Trail: (4) 10.4'W x 5.8'H (52')	234	CY	\$425.00	\$99,450
corrected Fairway Drive: (4) 10.4'W x 5.8'H (52')	234	CY	\$425.00	\$99,450
Sta. 76 + 45 to Sta. 92 + 50 (1605')				
Soft-Bottom Chnnl b = 30', d = 5.8', z = 2				
* Excavation	4,927	CY	\$3.50	\$17,244
Rock-revetted side slopes	7,018	CY	\$50.00	\$350,914
Fence & Gates	3,210	LF	\$11.00	\$35,310
Right-of-Way	3.1	AC	\$3,000.00	\$9,197
Pinon Creek Tributary - LOCAL FACILITY:				
Existing Rock-Lined Channel b = 10', d = 8', z = 1.5	-			\$0
Subtotal:				\$1,562,350
30% Contingency:				\$468,705
TOTAL COST:				\$2,031,055

* Unit price includes \$1.00/CY for disposal of excess material.

**YUCCA VALLEY MASTER PLAN OF DRAINAGE
COST ESTIMATE FOR DETAINED ALTERNATIVE**

COVINGTON WASH (C01)				
Facility Description	Quantity	Unit	Unit Cost	Estimated Cost
Sta. 6 + 15 to Sta. 22 + 63 (1648')				
Soft-Bottom Chnrl b = 80', d = 10.3', z = 2				
• Excavation	64,710	CY	\$3.50	\$226,486
Rock-revetted side slopes	12,529	CY	\$50.00	\$626,457
Fence & Gates	3,296	LF	\$11.00	\$36,256
Right-of-Way	6.1	AC	\$3,000.00	\$18,296
Culvert				
corrected Yucca Mesa Road: (7) 14.4"W x 10.3"H RCB (78')	866	CY	\$425.00	\$367,965
corrected Marvin Road: (7) 14.4"W x 10.3"H RCB (60')	666	CY	\$425.00	\$283,050
corrected Twenty-nine Palms Hwy: (7) 14.4"W x 10.3"H RCB (140')	1,554	CY	\$425.00	\$660,450
			Subtotal:	\$2,218,960
			30% Contingency:	\$665,688
			TOTAL COST:	\$2,884,648

SIERRA VISTA WASH (V01)				
Facility Description	Quantity	Unit	Unit Cost	Estimated Cost
Sta. 114 + 96 to Sta. 122 + 11 (Chipmunk Wash - V01-01)				
Soft-Bottom Chnrl b = 20', d = 6.4', z = 2 (715')				
• Excavation	3,102	CY	\$3.50	\$10,855
Rock-revetted side slopes	2,984	CY	\$50.00	\$149,220
Fence & Gates	1,430	LF	\$11.00	\$15,730
Right-of-Way	1.4	AC	\$3,000.00	\$4,215
Culvert				
corrected Sierra Vista Drive: (3) 10.9"W x 6.4"H RCB (76')	281	CY	\$425.00	\$119,510
Sta. 122 + 11 to Sta. 124 + 67 (256')				
Soft-Bottom Chnrl b = 8', d = 6.3', z = 2				
• Excavation	700	CY	\$3.50	\$2,448
Fence & Gates	512	LF	\$11.00	\$5,632
Right-of-Way	0.31	AC	\$3,000.00	\$938
			Subtotal:	\$308,549
			30% Contingency:	\$92,565
			TOTAL COST:	\$401,114

HILLCREST WASH (V01-03)				
Facility Description	Quantity	Unit	Unit Cost	Estimated Cost
Sta. 0 + 00 to Sta. 2 + 87 (287')				
Soft-Bottom Chnrl b = 8', d = 5.5', z = 2				
• Excavation	1,079	CY	\$3.50	\$3,776
Fence & Gates	574	LF	\$11.00	\$6,314
Right-of-Way	0.33	AC	\$3,000.00	\$988
			Subtotal:	\$11,078
			30% Contingency:	\$3,324
			TOTAL COST:	\$14,402

* Unit price includes \$1.00/CY for disposal of excess material.

**YUCCA VALLEY MASTER PLAN OF DRAINAGE
COST ESTIMATE FOR DETAINED ALTERNATIVE**

OWS CHANNEL (Y04)				
Facility Description	Quantity	Unit	Unit Cost	Estimated Cost
Sta. 0 + 00 to Sta. 20 + 65 (2065')				
Existing Concrete-Lined Chnnls (2) b = 10', d = 7', z = vert.	-			\$0
Sta. 0 + 00 to Sta. 13 + 94 (Upstream of OWS Basin)				
Existing Rock-Lined Chnnl b = 24', d = 8', z = 1.5 (1394')	-			\$0
Culvert				
corrected Paxton Road: (4) 9'W x 8'H RCB (52')	234	CY	\$425.00	\$99,450
Sta. 13 + 94 to Sta. 31 + 56 (Upstream of OWS Basin)				
Rock-Lined Chnnl b = 12', d = 6.7', z = 1.5 (1762')				
* Excavation	13,486	CY	\$3.50	\$47,201
Rock lining	7,079	CY	\$50.00	\$353,939
Fence & Gates	3,524	LF	\$11.00	\$38,764
Right-of-Way	2.92	AC	\$3,000.00	\$8,749
Culvert				
corrected OWS Road: (3) 7.3'W x 6.7'H RCB (120')	348	CY	\$425.00	\$147,900
corrected Buena Suerte Road: (3) 7.3'W x 6.7'H RCB (52')	151	CY	\$425.00	\$64,090
Sta. 31 + 56 to Sta. 49 + 12 (Upstream of OWS Basin - Y04-02)				
Rock-Lined Chnnl b = 12', d = 6.4', z = 1.5 (1756')				
* Excavation	12,484	CY	\$3.50	\$43,693
Rock lining	6,844	CY	\$50.00	\$342,181
Fence & Gates	3,512	LF	\$11.00	\$38,632
Right-of-Way	2.9	AC	\$3,000.00	\$8,611
Sta. 49 + 12 to Sta. 60 + 87 (Y04-02)				
Soft-Bottom Chnnl b = 8', d = 5.4', z = 2 (1175')				
* Excavation	3,008	CY	\$3.50	\$10,528
Rock-revetted side slopes	4,057	CY	\$50.00	\$202,854
Fence & Gates	2,350	LF	\$11.00	\$25,850
Right-of-Way	-	AC	\$3,000.00	\$0
Soft-Bottom Channel b = 8', d = 4.9', z = 2 (1323') - LOCAL FACILITY				
* Excavation	5,724	CY	\$3.50	\$20,035
Rock-revetted side slopes	5,055	CY	\$50.00	\$252,734
Fence & Gates	2,646	LF	\$11.00	\$29,106
Right-of-Way	-	AC	\$3,000.00	\$0
Fareello Wash (Y04-01):				
Sta. 0 + 00 to Sta. 2 + 83 (283')				
Soft-Bottom Chnnl b = 8', d = 4.9', z = 2				
* Excavation	898	CY	\$3.50	\$3,143
Rock-revetted side slopes	1,081	CY	\$50.00	\$54,062
Fence & Gates	566	LF	\$11.00	\$6,226
Right-of-Way	0.31	AC	\$3,000.00	\$928
Sta. 2 + 83 to Sta. 11 + 86 (903')				
Soft-Bottom Chnnl b = 8', d = 4.9', z = 2				
* Excavation	3,907	CY	\$3.50	\$13,674
Rock-revetted side slopes	3,450	CY	\$50.00	\$172,501
Fence & Gates	1,806	LF	\$11.00	\$19,866
Right-of-Way	-	AC	\$3,000.00	\$0
Soft-Bottom Chnnl b = 8', d = 4.6', z = 2 (1137') - LOCAL FACILITY				
* Excavation	4,528	CY	\$3.50	\$15,847
Rock-revetted side slopes	4,175	CY	\$50.00	\$208,728
Fence & Gates	2,274	LF	\$11.00	\$25,014
Right-of-Way	-	AC	\$3,000.00	\$0
Soft-Bottom Chnnl b = 8', d = 4.6', z = 2 (1113') - LOCAL FACILITY				
* Excavation	4,432	CY	\$3.50	\$15,513
Rock-revetted side slopes	4,086	CY	\$50.00	\$204,322
Fence & Gates	2,226	LF	\$11.00	\$24,486
Right-of-Way	1.1	AC	\$3,000.00	\$3,173
Subtotal:				\$2,501,799
30% Contingency:				\$750,540
TOTAL COST:				\$3,252,339

* Unit price includes \$1.00/CY for disposal of excess material.

**YUCCA VALLEY MASTER PLAN OF DRAINAGE
COST ESTIMATE FOR DETAINED ALTERNATIVE**

BUENA VISTA WASH (Y05)				
Facility Description	Quantity	Unit	Unit Cost	Estimated Cost
Sta. 0 + 00 to Sta. 4 + 00 (400')				
Soft-Bottom Chnrl b = 30', d = 10', z = 2				
* Excavation	10,785	CY	\$3.50	\$37,748
Rock-revetted side slopes	2,906	CY	\$50.00	\$145,314
Fence & Gates	800	LF	\$11.00	\$8,800
Right-of-Way	0.9	AC	\$15,000.00	\$13,774
Sta. 4 + 00 to Sta. 11 + 02 (702')				
Soft-Bottom Chnrl b = 30', d = 10', z = 2				
* Excavation	18,928	CY	\$3.50	\$66,248
Rock-revetted side slopes	5,101	CY	\$50.00	\$255,025
Fence & Gates	1,404	LF	\$11.00	\$15,444
Right-of-Way	1.6	AC	\$3,000.00	\$4,835
Sta. 11 + 02 to Sta. 40 + 17 (2915')				
Soft-Bottom Chnrl b = 20', d = 7.6', z = 2				
* Excavation	28,882	CY	\$3.50	\$101,088
Fence & Gates	5,830	LF	\$11.00	\$64,130
Right-of-Way	6.0	AC	\$3,000.00	\$18,148
Culvert				
corrected Sage Avenue : (3) 11.7'W x 7.6'H RCB (52')	208	CY	\$425.00	\$88,400
corrected Grand Avenue : (3) 11.7'W x 7.6'H RCB (52')	208	CY	\$425.00	\$88,400
Sta. 40 + 17 to Sta. 51 + 61 (1144')				
Soft-Bottom Chnrl b = 10', d = 6.4', z = 2				
* Excavation	6,183	CY	\$3.50	\$21,639
Fence & Gates	2,288	LF	\$11.00	\$25,168
Right-of-Way	1.3	AC	\$3,000.00	\$3,987
Extensions of Buena Vista Wash (Y05-01):				
Street Flow - Existing 36' Inverted Street				\$0
Soft-Bottom Channel b = 10', d = 4.6', z = 2 (792')				
* Excavation	2,591	CY	\$3.50	\$9,068
Fence & Gates	1,584	LF	\$11.00	\$17,424
Right-of-Way	0.79	AC	\$3,000.00	\$2,367
Sage Channel (Y06):				
Sta. 0 + 00 to Sta. 4 + 09 (409')				
Rock-Lined Chnrl b = 30', d = 5.7', z = 1.5				
* Excavation	5,872	CY	\$3.50	\$20,552
Rock lining	2,297	CY	\$50.00	\$114,865
Fence & Gates	818	LF	\$11.00	\$8,998
Right-of-Way	0.72	AC	\$3,000.00	\$2,172
Sta. 4 + 09 to Sta. 7 + 44 (335')				
Street Flow - Existing 36' Inverted Street				\$0
Sta. 7 + 44 to Sta. 17 + 25 (981')				
Rock-Lined Chnrl b = 30', d = 5.5', z = 1.5				
* Excavation	13,625	CY	\$3.50	\$47,686
Rock lining	5,432	CY	\$50.00	\$271,576
Fence & Gates	1,962	LF	\$11.00	\$21,582
Right-of-Way	1.7	AC	\$3,000.00	\$5,168
Subtotal:				\$1,479,607
30% Contingency:				\$443,882
TOTAL COST:				\$1,923,489

* Unit price includes \$1.00/CY for disposal of excess material.

TABLE 9

Detention Basin Costs

Table 9

YUCCA VALLEY MASTER PLAN OF DRAINAGE

DETENTION BASIN COSTS

WATER CANYON BASIN				
Item Description	Quantity	Unit of Measure	Unit Cost	Subtotal Cost
Concrete Spillway, Energy Dissipator & Inlet Channel	1,564	CY	\$225.00 /CY	\$351,900
Basin Excavation/Foundation Removals	530,420	CY	\$2.50 /CY	\$1,326,049
Excess material disposal	264,631	CY	\$1.00 /CY	\$264,631
Levee Embankment	132,894	CY	\$3.50 /CY	\$465,130
Right-of-Way	35	AC	\$3,000.00 /AC	\$105,000
Reinforced Concrete Box 7'W x 7'H RCB (200')	237	CY	\$425.00 /CY	\$100,741
Rock slope protection 50'L x 20'W	111	CY	\$70.00 /CY	\$7,770
Miscellaneous Facilities (10%)			\$262,122 /LS	\$262,122
			Subtotal	\$2,883,343
			30% Contingency	\$865,003
			TOTAL COST:	\$3,748,346

KICKAPOO BASIN				
Item Description	Quantity	Unit of Measure	Unit Cost	Subtotal Cost
Concrete Spillway, Energy Dissipator & Inlet Channel	323	CY	\$225.00 /CY	\$72,675
Basin Excavation/Foundation Removals	74,972	CY	\$2.50 /CY	\$187,429
Excess material disposal	21,441	CY	\$1.00 /CY	\$21,441
Levee Embankment	26,765	CY	\$3.50 /CY	\$93,678
Right-of-Way	8	AC	\$3,000.00 /AC	\$24,000
Basin Drain 48" RCP (100')	100	LF	\$425.00 /CY	\$42,500
Rock slope protection 50'L x 20'W	111	CY	\$70.00 /CY	\$7,770
Miscellaneous Facilities (10%)			\$44,949 /LS	\$44,949
			Subtotal	\$494,442
			30% Contingency	\$148,333
			TOTAL COST:	\$642,775

ACOMA BASIN				
Item Description	Quantity	Unit of Measure	Unit Cost	Subtotal Cost
Concrete Spillway, Energy Dissipator & Inlet Channel	646	CY	\$225.00 /CY	\$145,350
Basin Excavation/Foundation Removals	138,440	CY	\$2.50 /CY	\$346,100
Excess material disposal	6,760	CY	\$1.00 /CY	\$6,760
Levee Embankment	65,840	CY	\$3.50 /CY	\$230,440
Right-of-Way	10	AC	\$3,000.00 /AC	\$30,000
Basin Drain (160')				
60" RCP	160	LF	\$199.00 /CY	\$31,840
Rock slope protection	111	CY	\$70.00 /CY	\$7,770
50'L x 20'W				
Miscellaneous Facilities (10%)			\$79,826 /LS	\$79,826
			Subtotal	\$878,086
			30% Contingency	\$263,426
			TOTAL COST:	\$1,141,512

LONG CANYON BASIN				
Item Description	Quantity	Unit of Measure	Unit Cost	Subtotal Cost
Concrete Spillway, Energy Dissipator & Inlet Channel	958	CY	\$225.00 /CY	\$215,550
Basin Excavation/Foundation Removals	214,830	CY	\$2.50 /CY	\$537,074
Excess material disposal	45,994	CY	\$1.00 /CY	\$45,994
Levee Embankment	84,418	CY	\$3.50 /CY	\$295,462
Right-of-Way	11	AC	\$3,000.00 /AC	\$34,325
Reinforced Concrete Box				
8'W x 7'H RCB (160')	201	CY	\$425.00 /CY	\$85,630
Rock slope protection	111	CY	\$70.00 /CY	\$7,770
50'L x 20'W				
Miscellaneous Facilities (10%)			\$122,180 /LS	\$122,180
			Subtotal	\$1,343,985
			30% Contingency	\$403,196
			TOTAL COST:	\$1,747,181

EAST BURNT MTN. BASIN				
Item Description	Quantity	Unit of Measure	Unit Cost	Subtotal Cost
Concrete Spillway, Energy Dissipator & Inlet Channel	472	CY	\$225.00 /CY	\$106,200
Basin Excavation/Foundation Removals	201,667	CY	\$2.50 /CY	\$504,167
Excess material disposal	4,195	CY	\$1.00 /CY	\$4,195
Levee Embankment	98,736	CY	\$3.50 /CY	\$345,576
Right-of-Way	20	AC	\$3,000.00 /AC	\$60,000
Basin Drain (250')				
42" RCP	250	LF	\$113.00 /LF	\$28,250
Rock slope protection	111	CY	\$70.00 /CY	\$7,770
50'L x 20'W				
Miscellaneous Facilities (10%)			\$105,616 /LS	\$105,616
			Subtotal	\$1,161,774
			30% Contingency	\$348,532
			TOTAL COST:	\$1,510,306

WEST BURNT MTN. BASIN				
Item Description	Quantity	Unit of Measure	Unit Cost	Subtotal Cost
Concrete Spillway, Energy Dissipator & Inlet Channel	480	CY	\$225.00 /CY	\$108,000
Basin Excavation/Foundation Removals	158,502	CY	\$2.50 /CY	\$396,255
Excess material disposal	74,141	CY	\$1.00 /CY	\$74,141
Levee Embankment	42,181	CY	\$3.50 /CY	\$147,632
Right-of-Way	20	AC	\$3,000.00 /AC	\$60,000
Basin Drain (150')				
48" RCP	150	LF	\$130.00 /LF	\$19,500
Rock slope protection	111	CY	\$70.00 /CY	\$7,770
50'L x 20'W				
Miscellaneous Facilities (10%)			\$81,330 /LS	\$81,330
			Subtotal	\$894,628
			30% Contingency	\$268,388
			TOTAL COST:	\$1,163,016

TABLE 10

Recommended Priority for Implementation of Master Plan Improvements

Table 10

YUCCA VALLEY MASTER PLAN OF DRAINAGE

**Recommended Priority for Implementation
of Master Plan Improvements**

Priority	I.D. No.	Drainage System		Fig. Ref.	Activity
		I.D. No.	Description		
1	Y07		Long Canyon Detention Basin	40	Acquire additional R/W approximately 11 ac
2	K01		Kickapoo Detention Basin and Storm Drain Inlets	38	Acquire R/W approximately 10 ac
3	Y10		Acoma Detention Basin	39	Acquire R/W approximately 10 ac
4	Y03		East Burnt Mountain Detention Basin	41	Acquire R/W approximately 20 ac
5	Y02		West Burnt Mountain Detention Basin	42	Acquire R/W approximately 20 ac
6	Y12		Water Canyon Detention Basin	37	Acquire R/W approximately 35 ac
7	Y01		Yucca Wash	11	Construct channel from Apache Trail U/S to Deer Trail
8	Y01		Yucca Wash	11	Construct Fox Trail, Elk Trail, and Deer Trail Street Improvements as needed
9	K01-03		Inca Trail Wash	8	Construct Storm Drain from Blue Skies Country Club U/S to Santa Fe Avenue
10	K01-03		Inca Trail Wash	8	Construct Santa Fe Avenue street improvements as needed
11	Y01-01		Hanford Avenue Drain	26	Construct channel from Yucca Wash confluence U/S to Sunnyslope Dr.
12	Y01-01		Hanford Avenue Drain	26	Construct Hanford Avenue, Balisa Avenue Street Improvements as needed
13	Y01		Yucca Wash	11	Construct channel from confluence with Water Canyon Channel U/S to Apache Trail
14	Y07		Long Canyon Channel	40	Construct Detention Basin
15	Y07		Long Canyon Channel	13	Construct channel U/S of Basin to Golden Bee
16	Y07		Long Canyon Channel	12	Construct channel from confluence with Hospital Channel U/S to Basin
17	Y09		Hospital Channel	15	Construct channel from confluence with Long Canyon Channel U/S to Golden Bee
18	Y09-01		High School Channel	16	Construct channel from confluence with Hospital Channel U/S to Grand Avenue
19	K01		Kickapoo Drain	38	Construct Detention Basin and Storm Drain Inlet
20	K01		Kickapoo Drain	8	Construct Storm Drain from Blue Skies Country Club U/S to Basin
21	K01-01		Kickapoo Drain	8	Construct La Honda Debris Control Inlet
22	K01-01		Kickapoo Drain	8	Construct channel from Kickapoo Storm Drain U/S to Debris Control Inlet
23	Y10		Acoma Channel	39	Construct Detention Basin
24	Y10		Acoma Channel	17	Construct channel from confluence with Hospital Channel U/S to Basin
25	Y03		East Burnt Mountain Wash	41	Construct Detention Basin
26	Y03		East Burnt Mountain Wash	23	Construct channel U/S of Basin to Joshua Drive
27	Y03		East Burnt Mountain Wash	23	Construct channel from confluence with West Burnt Mountain Wash U/S to Basin
28	Y02		West Burnt Mountain Wash	42	Construct Detention Basin
29	Y02		West Burnt Mountain Wash	20	Construct Channel from confluence with Yucca Wash to confluence with East Burnt Mountain Wash
30	Y02		West Burnt Mountain Wash	20	Construct Channel from confluence with East Burnt Mountain Wash to Basin
31	P01		Pinon Creek	5	Construct channel from Blue Skies Country Club U/S to 1600 feet west of Fairway Avenue

Priority	Drainage System		Fig. Ref.	Activity
	I.D. No.	Description		
32	Y05	Buena Vista Wash	19	Construct channel from confluence with Yucca Wash U/S to confluence with Sage Channel
33	Y06	Sage Channel	19	Construct channel from confluence with Buena Vista Wash 1700 feet U/S
34	Y05	Buena Vista Wash	19	Construct channel from confluence with Sage Channel U/S to 1200 feet west of Palm Avenue
35	Y05	Buena Vista Wash	19	Construct Street and Channel improvements to near Mohawk Drive
36	Y04	Old Women Springs Channel	25	Construct channel from existing channel to 4700 feet U/S
37	Y04-01	Farello Wash	25	Construct channel from confluence with Old Women Springs Channel to 1200 feet U/S
38	Y12	Water Canyon Channel	37	Construct Detention Basin
39	Y12	Water Canyon Channel	7	Construct channel from confluence with Yucca Wash U/S to Basin
40	Y01	Yucca Wash	9	Construct channel from Yucca Mesa Road U/S to Avalon Avenue
41	Y01	Yucca Wash	9	Construct channel from Avalon Avenue U/S to confluence with Burnt Mountain Wash
42	Y01	Yucca Wash	10	Construct channel from confluence with Burnt Mountain Wash U/S to Old Women Springs Road
43	Y01	Yucca Wash	10	Construct channel from Old Women Springs Road U/S to confluence with Long Canyon Channel
44	Y01	Yucca Wash	10	Construct channel from confluence with Long Canyon Channel U/S to confluence with Water Canyon Channel
45	C01	Covington Wash	27	Construct SR62 culvert crossing and inlet U/S of SR62
46	C01	Covington Wash	27	Construct Levee near Avalon Avenue and Arcadia Street
47	V01	Sierra Vista Wash	34	Construct channel to 800 feet downstream of confluence with Hillcrest Wash